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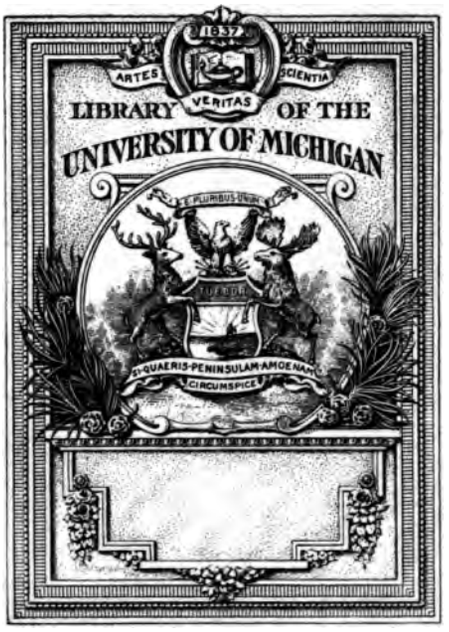
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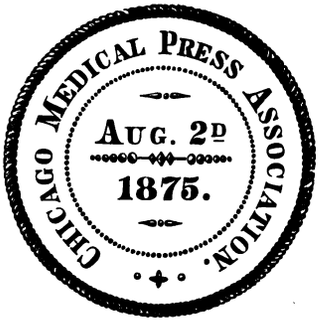

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THYROTOMY; WITH REPORTS OF FOUR OPERATIONS.

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(Read before the Chicago Medical Society, December 4, 1876.)

The operation of thyrotomy was, so far as I am able to learn, first performed by Brauers, of Louvain, in 1833. I am unable to say with certainty how many times it has been performed since, but I find records of only fifty-nine cases. It is to be presumed that some have been published of which I have no knowledge. Dr. Morel Mackenzie, in 1873, knew of only forty-eight cases, which he tabulates with reference to date, operation, age, sex, symptoms, mortality, respiration, voice, recurrence or incomplete removal. As to result, he estimates: Complete success in 14.58 per cent.; partial success in 22.91 per cent.; deaths, 8.33 per cent.; severe dyspnœa, requiring cannula, 31.25 per cent.; severe dyspnœa, requiring fresh operation, 8.33 per cent. He found aphonia in 40 per cent.; dysphonia in 20 per cent.; modified voice in 11.11 per

cent.; not stated, but probably defective voice, 6.66 per cent.; recurrence or incomplete removal, 38.46 per cent. His conclusions are as follows:

"1. That the operation ought never to be performed for loss of voice alone.

"2. That in cases of cancer the operation is useless except where the growth is very small and distinctly circumscribed.

"3. That the operation should be confined to those cases in which there is danger to life from suffocation or dysphagia, and then only to be performed after an experienced laryngoscopist has pronounced it impossible to remove the growth *per vias naturales.*" See his reply to Mr. Durham, London, 1873.

Mr. Durham had taken a much more hopeful view of the operation. He says:

"*First*—That the dangers and difficulties attending it are neither so numerous nor so considerable as have been represented and commonly supposed.

"*Second*—That the success hitherto achieved has been so marked and so indisputable as to justify and encourage in any such case as may seem appropriate, an earlier, bolder and more ready resort to this method than has hitherto prevailed."—*55th vol. Med. Chirurg. Tras., London.*

Of Mackenzie's forty-eight cases, nine were performed in America, namely: By Dr. Gurdon Buck, four cases; by Dr. Sands, one case; by Dr. Gouley, two cases; by Dr. Cohen, one case; by Dr. Cutter, one case.

Navratil, in a Vienna medical journal, published in 1875, reports twelve cases with good results. Three cases by this operator are included in Mackenzie's tables, and of these three one is reported aphonic and the other two dysphonic. In the paper referred to twelve cases are reported, and in all of them the voice was restored. I have not seen the original report, but a notice of it in the *Revue des Sciences Médicales*, Vol. IV., p. 638, Paris. Do the twelve cases reported in 1875 include the three in Mackenzie's paper? I assume that they do. In Mackenzie's table there is a case by Krishaber, in 1869, in which the voice is reported normal.

In the *Dictionnaire des Sciences Médicales*, under the article Larynx, Krishaber and Peter state that the voice is always extinct after the separation of the thyroid cartilages. In Krishaber's case, in Mackenzie's table, the voice is reported normal. The article in the *Dictionnaire* was published after the report of the case. I presume, therefore, we may infer that the voice did not remain normal. Of Navratil's twelve cases, in all of which he reports the voice restored, he says that two were able to sing. In the other cases, while the voice was restored, there was probably some defect either in flexibility or quality.

Dr. George M. Lofferts, of New York, reports a case of thyrotomy for the removal of both ventricles, which were prolapsed. The voice was not destroyed by the operation.—*Ann. des Mal. de l'Oreille et du Larynx.*

J. Bœckel performed the operation for removal of a tumor from the right ventricle, probably prolapse. The voice was not destroyed.—*Gazette Méd. de Strasbourg.*

Of the fifteen cases of which I have some knowledge since Mackenzie's table was published in 1873, only one has died. In thirteen the voice has been restored, or at least not destroyed.

Bœckel suggests that in operating for thyrotomy the head should be low, so that the blood will gravitate toward the mouth rather than toward the trachea. This suggestion seems to me to be worthy of consideration.

Among those who have written upon the subject there seems to be a wide difference of opinion as to the necessity, the methods, and the results of the operation. Some authorities insist that all, or nearly all, growths can and ought to be removed *per vias naturales;* others, with Mr. Durham, that thyrotomy should be resorted to more boldly and more readily.

It is insisted by some that the cricoid should never be divided; others assert that the separation of this cartilage gives rise to no inconvenience. Dr. Mackenzie and Mr. Durham do not by any means arrive at the same conclusions as to the results. Mr. Durham finds complete success in 51.35 per cent. of the cases analyzed; Dr. Mackenzie, from a study of the same histories, finds complete success in only 14.58 per cent.

Mr. Lennox Browne, in a communication read before the Medical Society of London, upon the treatment of non-malignant growths in the larynx, presented the following general propositions, which are of interest in connection with this subject:

"1. Attempts made to remove excrescences of the larynx by ablation are not as harmless as is generally supposed.

"2. The symptoms occasioned by benign tumors of the larynx are not marked enough to necessitate the use of instruments.

"3. Many of these growths are destroyed, or are reduced, by local treatment or appropriate general treatment, especially where they are recent.

"4. The reappearance of laryngeal tumors after their ablation by *per vias naturales*, is more frequent than one would suppose.

"5. The transformation of benign into malignant growths is a quite frequent result of attempts at extraction.

"6. The instruments more frequently used at the present day are much more dangerous than those formerly employed. They determine perichondritis by wounding the sound parts.

"7. As to extra laryngeal operations, they should be reserved for those cases where there is danger of asphyxia or dysphagia." —*British Med. Journal, May*, 1875; *from Annales des Maladies de l'Oreille et du Larynx, Aug.*, 1876.

The recorded cases in which the details and results are fully given are probably not yet sufficiently numerous to justify a positive judgment upon many of the questions involved.

As some contribution to the history and literature of this subject, I beg to submit to the Society reports of four operations of thyrotomy — the only ones, so far as I know, performed in Illinois. Two of these operations were upon the same patient; but the circumstances were such as to justify separate histories. These four, with the nine of Navratil, one by Lofferts, and one by Boeckel, added to the forty-eight tabulated by Mackenzie, make in all sixty-three cases:

Case I. George Mundie, aged ten years, of English parentage, was referred to me by Dr. E. P. Cook, of Mendota, Ill. I saw him first December 4, 1868. He was well grown for his age, and appeared healthy. His mother stated that he had been somewhat hoarse from infancy; had not been subject to croup, but for the last three years had been, with the exception of two short intervals, aphonic. Before the voice became extinct, three years ago, he took a bad cold, and coughed severely for five or six weeks. The loss of voice was gradual. About two years ago he again took a severe cold, and after three or four days the voice returned, and was quite natural for ten days, when it began to fail, and became entirely extinct as he recovered from his cold. About eight months ago the voice returned for a few days, while suffering from a severe cold, but was not natural in quality. Upon examination I found an uneven strawberry-like growth, of a bright rose color, between the anterior portion of the cords, and apparently attached beneath them. The posterior extremities of the cords were free. There was more difficulty in expiration than in inspiration. The case was kept under observation for some time, and repeated efforts made to remove the growth with the forceps, but without success. Repeated subsequent examinations confirmed the diagnosis of a tumor of considerable size located in the infra-glottic space. It could be thrown up between the cords by coughing, and would then be held there by the cords. There was constant difficulty of breathing, and attacks of great dyspnœa became quite frequent. Finding it impossible to remove it by the natural passages, as it would fall down and out of the reach of instruments upon each effort, while spasm of the larynx was easily provoked, I advised thyrotomy. The operation was agreed to, and a day set for its performance; but the little fellow in the meantime fell into the hands of a quack, who scouted the idea of a tumor and promised to cure him in three weeks. I did not see him again; but I advised my friend, Dr. Cook, who had in the meantime acquired a facility in the use of the laryngoscope, and who had taken much interest in the case, to be prepared to perform tracheotomy if neces-

sary, as I feared it soon would be, and suggested that in that event, if the parents would consent to it, he open the larynx and remove the tumor.

In December, 1870, I received from the doctor a letter, of which the following is a copy:

"MENDOTA, ILL., December 16, 1870.

"H. A. JOHNSON, M.D.: *Dear Sir*—I have no doubt you remember, and that it will give you pleasure to hear from your former patient, Master G—— M——. I performed the operation of thyrotomy in his case seven days since. He is doing finely. There proved to be a double mass of nearly equal size, with a common pedicle, or I might say neither strictly pedunculated nor sessile; the upper mass nearly spheroid in shape half inch in diameter; the lower, and which was with difficulty seen by the laryngoscope, oblong and flattened—greatest diameter five-eighths of an inch. Nothing could more perfectly resemble a diminutive cauliflower. Of its benignancy I hope there can be no question. The operation was not very difficult, but required more than two hours' time. External incision two and a half inches long, from a little above the hyoid bone to below the cricoid cartilage, but kept clear of the isthmus of the thyroid body, and did not expose the rings of the trachea, as a precautionary step, in view of the possible necessity for the introduction of the tube. Made the external incision a little to one side of the median line, and dissected down obliquely to the larynx, etc. Thus, upon closing the external wound, had more tissues upon the one side, and by that means steadied the thyroid cartilage and perfectly controlled the over-riding of the one section upon the other. But I need not go into particulars, as they are no doubt more familiar to you than to me. I expect in a few days to have a laryngoscopic view of the parts.

"I am, yours truly, E. P. COOK."

I have heard from this case repeatedly since; and in June, 1874—more than three and a half years after the operation—Dr. Cook told me that there had been no return of laryngeal trouble, and that the voice was quite natural. This, so far as

I know, is the first case of thyrotomy performed west of Philadelphia and New York.

The following case was for some weeks under my care, and I made repeated efforts to destroy the growth by the galvano-cautery. After one of the applications he became frightened, and I did not see him again until the operation for thyrotomy. From Dr. E. Bert, of this city, who performed the operation, I have the following statement:

"CHICAGO, November 27, 1876.

"DR. H. A. JOHNSON, CITY: *Dear Doctor*—I copy from my memorandum of the case: Carl Moll, forty-five years of age (1874), merchant tailor. Never sick before; first symptoms of tumor-laryngis May, 1873; slight irritation in swallowing, particularly of dry substances; beginning hoarseness at same time. During the summer of 1873 his symptoms gradually increased in intensity, until in autumn complete aphonia set in. The pains appear at the same place—on the left side of os hyoid and underneath—radiating often, and mainly at nights, toward left ear. Pain increased while swallowing, sometimes so intense that patient refuses to eat.

"*Coughed* very little in the beginning of the disease; now of a dry and hacking character, accompanied quite recently by pain. Expectoration, of a slimy and salivary character, quite copious.

"*Alteration* of voice has been almost his first symptom. Up to the middle of last winter it was sometimes better than at others; since about six months it has failed almost completely.

"*Dyspnœa* begins to appear now, and alarms patient more than anything else. The copious collection of mucus forces him to spit quite often, and at such times he cannot breathe quite freely. In the month of June (1874) there was quite an inflammatory swelling, caused by the continued use of the galvano-cautery, and then he was suffering from dyspnœa more than even now (November, 1874). He is able to relieve himself from the trouble of dyspnœa, by rolling over to his right side, which seems to indicate the mobility of the tumor.

"*Dysphagia.* Patient is able to swallow all kinds and form of nourishment. The act of swallowing is painful, and followed by an attack of cough generally, by which small masses of edibles are thrown back. This symptom is varying at different times.

"*Pain* has existed from the beginning, and was of a constant, dull character. He thought "he could cough out the foreign substance." Pain has gradually increased in intensity, it being unusually sharp now. It is confined to the left side of the os hyoid, and extends upward to the left ear, which is sometimes the principal seat of complaint, particularly at nights.

"June, July and August all possible alteratives were applied, and finally galvanic treatment was instituted.

"*November* 19, 1874. Great emaciation during eight days; loss of strength; eats almost nothing. The tumor very much swollen; a small ulceration to be seen on left half of epiglottis. Sputa very copious, partly of a bad odor. *Wants* operation at all hazards. Low tracheotomy performed November 20, 1874.

"Thyrotomy was performed November 22, 1874, the cartilage being very resistant; there was considerable difficulty in splitting it open. Another trouble was the lack of a convenient instrument to keep both halves of the cartilage and larynx apart. The tumor was seized with a strong vusella and twisted a number of times around its small base, from which it protruded downward over one and a half inches in the shape of a pear. There was little hæmorrhage. The base of the tumor was strongly touched with perchloride of iron. The patient had a kind of fainting spell soon after the operation, but rallied from it soon with the aid of beef tea and stimulants. He was able to read and write about an hour and a half afterward, and whispered without any pain; could be easily understood. Every possible precaution as regards temperature of room and ventilation and nourishment was very strictly taken; the most accurate scrutiny would fail in finding any omission. The wound seemed to do well. Cleaning the cannula could be done without any trouble; scarcely any

fever, no symptoms of pyæmia, gangrene, pneumonia, etc. He continued to do well, and the most sanguine expectations about his final and speedy recovery seemed justified. November 25, 10 P. M., he was in good spirits, not complaining of anything, except he sat up and wrote on a slip of paper: My head feels very sore. At 2 A. M. he was seen, and talked a few words quite intelligently. At 4 A. M., November 26, 1875, he expired, a few moments after he had been watched and found well, without any struggle.

"A *post-mortem* examination made of the larynx failed to discover any local *causa mortis*. The wound was in a good condition, no gangrenous appearance or (diphtheric?) exudation, no signs of hæmorrhage."

CASE III. Viola Franks, female, aged six and a half years, was brought to me by her mother, in the fall of 1873. She had whooping cough in the winter of 1872–3, and as she recovered from it her voice began to be hoarse and finally became extinct. At the time of consultation she was apparently in good health, with the exception of a slight cough and the aphonia, with occasional paroxysms of dyspnœa. Her appetite was fair, and she was well nourished. She was bright and cheerful, her cheeks ruddy and her lips red. Upon examination I found the epiglottis narrow and rolled like a dried leaf; it was dependent, and covered over the entrance to the larynx so that I could not see the vocal cords. The color of the parts, so far as I could observe them, was normal.

During the winter of 1873–4 I saw her several times, but could never see the glottis. Her general health failed a little, and in the spring became decidedly impaired. She was placed upon tonics, which for a while seemed to benefit her; but in the early summer of 1874 dyspnœa, both upon inspiration and expiration, became constant, with frequent spasms of the glottis. She was emaciated, pale, appetite poor, and all the symptoms so alarming, that on the fifth of July I performed high tracheotomy. She immediately began to improve, and gained in flesh and strength. Early in September she again began to fail; the appetite was poor, and there was difficulty

in swallowing, apparently from pressure upon the œsophagus. So far I had not been able to see below the glottis, and only occasionally to get a glimpse of the vocal cords. The epiglottis rested back, covering in the laryngeal cavity, and it was only by an effort at coughing that it would be thrown up. She would not tolerate in the pharynx the presence of a hook, so that I could not raise it. From the fact that there was no sufficient cause for the dyspnœa above the cords, and especially no impediment above them to expiration, and from the fact that there was no mechanical obstruction below the cricoid, I was confirmed in the opinion which I had previously held, that there was a tumor in the infra-glottic space of such size as to mechanically obstruct the passage of air. The dysphagia seemed to be caused by pressure of the tumor upon the parts posterior to the larynx.

September 27, 1874, with the assistance of Drs. Norcom and Sherman, I performed thyrotomy, dividing the soft parts in the median line, opening the larynx through the crico-thyroid membrane, introducing a grooved director upwards and between the vocal cords, and then dividing the cartilage. Upon separating the parts I found a tumor completely filling the space below the glottic chink and attached to the walls upon the right side of the space. The attachment was large, and its thorough removal somewhat difficult, as it extended below the superior border of the cricoid and up to the right cord. In order to make the removal as thorough as possible, I divided the cricoid cartilage. The growth was removed partly with the forceps and partly with a pair of sharply curved scissors. There was considerable hæmorrhage, which was controlled by the application of a solution of persulphate of iron. The base was cauterized with nitrate of silver, and the parts brought together. There seemed to be no tendency to displacement, and I simply closed the soft parts with two interrupted sutures, and supported them with strips of adhesive plaster. The operation was well borne, and was followed by very little fever or discomfort. In a few days she was up and around the house, and soon recovered her general health. The cannula was however allowed to remain.

The tumor was irregular in shape, of a cauliflower appearance, and about five-eighths of an inch in its transverse diameter, and extending from the vocal cords down to the lower border of the cricoid cartilage. It was soft, and easily broke down under the instruments. A microscopic examination was made, and it was found to consist of epithelial cells with in its interior a basis of connective tissue and blood-vessels. The larger portion of it, however, was made up of rounded or flattened epithelial cells and those not confined to its exterior. It evidently belonged, I think, to the epitheliomas, although upon its surface it presented the ordinary appearance of papilloma in the larynx. She breathed easily through the larynx, and for some weeks I hoped the operation would be followed by complete recovery. She was able to speak aloud, but with difficulty, as I was told; I did not hear her.

In about six weeks her mother thought she did not breathe quite as easily through the larynx; and upon examination, December 1, 1874, I found that she could not breathe at all through the larynx. The tumor was evidently reproduced. Her general health was, however, fair, and continued good during the winter of 1874–5. Portions of the growth came down so that they could be reached through the opening in the trachea, and were removed for examination. The microscopic characters were the same as those of the tumor.

In Dr. Mackenzie's paper, in reply to Mr. Durham, he says: "In all instances where thyrotomy has been performed afresh, the original wound having completely healed up, the operation has been considered as a new case." In my little patient the original wound had completely healed in a very short time after the operation. The respiration through the larynx was good, and the voice had been partially restored. The case was unsuccessful, however, as recurrence took place. In accordance with Dr. Mackenzie's rule, it should now be treated as a new case.

Case IV. The patient continued in fair health during the spring of 1875, but in the early summer began to lose flesh, became pale and anæmic. There began to be some dys-

phagia, and I determined to repeat the operation. On the 29th of July, 1875, assisted by Drs. Norcom, Freer and Andrews, I again performed thyrotomy, dividing both cartilages from below upwards, having passed a director between the vocal cords before completing the section of the thyroid. The parts were separated, and held apart by two double hooks.

The tumor, upon opening the larynx, immediately protruded through the wound, presenting the appearance of a cauliflower of a pinkish color. The attachment was the same as in the former operation, but somewhat more extensive, reaching further to the left of the median line. The growth was larger than that removed in the previous operation, and was evidently producing a good deal of pressure upon the walls of the larynx. It was carefully and thoroughly detached, and the base touched with strong nitric acid. The section was found to have been made exactly in the median line, between the anterior attachments of the cords, and they were both uninjured and normal throughout their entire extent.

The operation was followed by almost no fever, or any untoward symptom. Even the next day she sat up, and had a fair appetite; swallowed well; and in a week she was out of the house, and the wound had almost entirely healed. As in the former case, she continued to wear the tube in the trachea. From this time on her general health was good, and she breathed easily through the larynx. The inner as well as the outer tube was fenestrated, and she wore a cork much of the time in the cannula.

In March, 1876, eight months after the operation, she began to speak aloud, and for the first time I heard her voice. I removed the tube, as I found no evidence of a recurrence. From that time to the present — December 4, 1876 — her general health has been good. She has been in school during the summer and fall, and habitually speaks in a clear, ringing tone. I find that the voice has a good degree of flexibility, and she has been, during the fall, taking lessons in singing.

The opening in which the cannula was worn is still not quite closed; and for the last few weeks I have touched the parts with solid nitrate of silver. The skin seems to be

inverted, keeping the free edges a little apart. There is no purulent discharge from it, only at times a little mucus appearing at the point. It seems now to be rapidly closing.

During the last few months I have repeatedly seen the vocal cords in the laryngeal mirror. They are upon the same plane, normal in color, and smooth and entire throughout their whole extent, with the exception of a very slight roughness near the anterior attachment of the left. The epiglottis is more erect, and the examination is not difficult. It is perhaps too soon to pronounce positively as to a recurrence; but the case seems to be a complete success. The patient was present and was examined by the members of the society. A portion of the tumor with a microscopic section was also exhibited.

CHICAGO, December 4, 1876.

INSOMNIA: ITS CAUSES AND TREATMENT.

BY J. SUYDAM KNOX, M.D.

(Read before the Chicago Medical Society.)

It is undoubtedly true, though we have no direct evidence to that effect, that in the human body functional life means structural death. Muscular force, nerve energy and glandular activity imply molecular disintegration. It is also equally true that, supplementing this waste, there is a constant and corresponding repair. Alternately waste or repair may be in excess; but a mean equilibrium is preserved. This equilibrium is health. Continued excess in either direction is disease.

Now, nutrition being constant, repair will be greatest during periods of the least activity. Taking the amount of the absorption of oxygen and excretion of carbonic acid as a measure of tissue waste, we find that during digestion, muscular exertion, or mental activity, these amounts are greatly increased; during rest both are diminished, and during sleep both are at a minimum.

Sleep, then, is the normal period of greatest repair. As during the waking hours waste exceeds the nutrition, so during sleep repair exceeds disintegration. Sleep, then, is neces-

sary to maintain the equilibrium between integration and disintegration. When development is superadded to nutrition, as in infancy and growing childhood, sleep is prolonged. On the other hand, in old age, when, with decreasing functional activities, progressive decay is overshadowing nutrition, sleep is shortened. The necessity of sleep, therefore, to maintain physical vigor is apparent without argument. And when insomnia, as a resultant, is added to the rapid disintegration and consequent exhaustion of disease, it requires no logic to impress the gravity of this complication upon the physician.

To understand how best to combat insomnia, it is necessary to know the phenomena of healthy sleep. As far as our subjective knowledge goes, during healthy sleep we observe that the brain is in a condition of partial or absolute repose. There is an absence of all voluntary exertion; and though exertion is possible to change a painful position or avoid a cause of irritation, it is made unconsciously, and without awakening; sensibility is blunted, and the special senses inactive; from absence of all voluntary muscular effort, frequency of pulse and blood pressure are diminished, though not more so than during complete repose without sleep. We thus see that sleep is a condition of the nervous system. It is a corroborative fact, that while muscular exhaustion can be overcome by simple rest, nervous exhaustion can only be recuperated by sleep.

Two opposite theories have been advanced to account for the immediate cause of sleep. One attributes it to venous congestion, or increased blood pressure in the brain. This theory is at fault, however, in this respect: that compression of the brain gives rise to stupor or coma, with absolute loss of intellectual power. There is no consciousness, no dreams, no sensibility; in nothing resembling healthy sleep. The other theory originated in the researches of Durham in 1860. Trephining the skulls of dogs, in each case a piece of bone was removed, and a watch glass carefully cemented in its place. In this way the condition of the surface of the brain both awake and asleep could easily be observed. During wakefulness the vessels of the pia mater were moderately distended

with blood, and the circulation active. During sleep the circulation was very much diminished, and the brain became pale and retracted. Durham's theory, therefore, was that sleep was caused by anæmia of brain.

Influenced by this theory, Dr. Flemming compressed both carotid arteries in himself and others, and was able, by thus arresting the flow of blood to the brain, to produce immediate and profound sleep. In the wakefulness of infants due to teething or other sources of irritation, the hot bath induces sleep, more by the determination of blood from the head than by the relaxing influences of the immersion. Also the peculiar condition called fainting, to all outward appearances, is directly due to a sudden departure of blood from the head, and in all probability is only a profound sleep thus suddenly induced. The conclusion is the more reasonable when it is observed that the best remedy for syncope is to lower the upper extremity of the body below the horizontal, and thus produce a mechanical return of blood to the brain.

Anæmia of the brain is now generally accepted as the direct cause of sleep, due undoubtedly to vaso motor nerve influence. Positive knowledge can go no further; but observation teaches that long continued physical effort, requiring repose; repose itself; soothing sounds and influences, lulling mental activity; mechanical or sympathetic influences, like position or revulsion, tending to withdraw blood from the encephalon; the removal of light or sound; in fact the withdrawal of all causes that provoke reflex nervous action, are the factors that accomplish this anæmia and lead to sleep. For the cerebrum may be looked upon as an inhibitory influence upon the sympathetic. Withdraw this influence, and the vaso motors successfully exert a tension upon the cerebral capillaries which is constant, though during wakefulness controlled.

Accepting then the theory that sleep is caused by cerebral anæmia, it follows naturally that insomnia arises from cerebral hyperæmia. And since the causes of this hyperæmia are various, as a corollary it may be stated that no one remedy can in all cases act as a hypnotic. Rather is it necessary to differentiate the disturbing element, and remove or neutralize it.

Among the many causes that determine this cerebral hyperæmia, the most prominent are — pain, excitability of afferent nerves or nerve centers, high temperature, and sympathetic derangements of circulation determining to the head. These all admit of various combinations, calling for corresponding variations of treatment.

Pain.—Under this head are included all grades of pain, from mere physical discomfort to extreme agony. All pain provokes reflex nerve activity, and thus maintains cerebral hyperæmia. In its milder forms the resulting insomnia is best combatted by the use of the bromides, whose physiological action is to lessen the susceptibility of the afferent nerves and quiet cerebral excitement. In graver forms of pain there is (outside of anæsthetics) no analgesic equal to opium, and it alone can be relied on. Under such circumstances sleep forced by chloral hydrate is restless and unrefreshing; and the doses required of it and potassic bromide are too large to be safely continued.

The salts of morphia are undoubtedly the best form of opium, and the hypodermic syringe the best means for its administration. By this method the first or stimulating influence of the drug is escaped, and the patient passes at once into sleep. Another advantage is gained in avoiding the local benumbing effects of the drug upon the stomach, and the transference of those effects to the seat of pain, by there placing the injection. This latter is well illustrated in the superior influence of suppositories of opium, or rectal injections of some form of it, for pain located in the rectum or genito urinary organs. Various authorities condemn the use of over one-sixth grain of morphia hypodermically; but my observation has been that such an amount is often inefficient. I seldom use for an adult less than from seven to ten minims of Magendie's solution of morphia (16 gr. to ℥j), equal to one-fourth to one-third grain of morphia, and in hundreds of such injections have never seen any bad results.

Owing to the fact that therapeutic doses of opium increase the force of the heart's action and stimulate the nerve centers, it is contra indicated in inflammation or acute congestion of

the brain. My own conviction, however, is that opium can often be safely used, if properly guarded, where tradition has forbidden it, provided always that the cause of brain congestion is not permanent. It is often a question whether the extreme reflex nerve irritability and irritative fever growing out of continued severe pain, will not produce more cerebral hyperæmia than a full dose of opium, and whether centric nerve inactivity, with passive congestion, is not preferable to reflex irritability and active congestion. The principal objection is to the stimulating effect of the drug; but with full doses used hypodermically this effect is very transient. Under such circumstances, to neutralize the objectionable influence of the drug, and yet not lose its analgesic power, a hot bath or a hot foot bath should be taken before its administration, or better still, drop doses of tr. aconite root should be given each fifteen minutes until three or five are taken, and the injection then be administered. Another contra-indication to the use of opium is idiosyncrasy. In certain nervous women opium produces extreme nervous prostration, with headache and excessive vomiting. In such cases, where its administration is a necessity, it should be used hypodermically, preceded for twenty minutes by thirty or forty grains of potassic bromide, or it may be given in solution with fifteen or twenty grains chloral hydrate. Either combination diminishes the amount of morphia required, and at the same time lessens the reflex irritability of the nerve centers. As the force of this depressing effect of opium seems to be expended upon the pneumogastric nerves, a minute amount of atropia might be added to each dose, as a stimulant to the vagi, but not enough to antidote the hypnotic effect.

A final contra-indication to the use of opium is the danger of forming the opium habit. In chronic insomnia it should be used with great care. It is a deleterious drug, and has too long been looked upon as the only reliable hypnotic. Physicians are largely responsible that nearly every household, among its domestic remedies, contains a bottle of paregoric for babies and laudanum for adults. The truth is, that as a

pure hypnotic, opium should never be used, unless other symptoms or severe pain temporarily demand it.

When pain rises to agony sleep is imperative, both from a humanitarian point of view and as a means of preventing rapid nerve exhaustion. In such cases moderate doses of opium are inefficient, and the only efficient means — anesthesia — cannot be long enough continued. An ingenious combination of the two will often secure long and profound sleep. The method is first to produce complete anesthesia with chloroform or ether, and then to administer hypodermically from $\frac{1}{8}$ to $\frac{1}{2}$ gr. morphia. In this way from eight to fifteen hours of profound sleep may be obtained. Though not sufficiently tested to be proven absolutely innocent, this method has so far been followed by no bad results.

A second cause of insomnia is excitability of afferent nerves or nerve centers. This is the prolific source of almost all wakefulness. Whether we have unrest produced by over mental work or excessive anxiety, whether the emotions or passions enter as factors, or excessive venery, or uterine derangements, or abuse of alcohol, or the specific poisons of disease exist as active causes, the result is the same, viz.: Excessive nervous reflex activity, opposing anæmia of brain, and forbidding sleep. In all such cases treatment of the remote causes is necessary. For the suppression of the immediate cause, the reflex irritability thus produced, two drugs are deservedly held in high esteem, namely, chloral hydrate and potassic bromide.

Chloral hydrate is a pure hypnotic, producing sleep in all points like natural repose. Physiologically it acts directly upon the cerebrum and nerve centers, producing slower pulse, lessened respiration, lowered temperature, and diminished consumption of oxygen and elimination of carbonic acid. In larger doses it produces decided fall of temperature, and progressively paralyzes the nerve centers. Its therapeutic uses are in accord with its physiological effects. In all nervous wakefulness from mental or physical overwork, or of an emotional character, chloral hydrate is indicated. In extreme debility it is forbidden on account of its paralyzing effect upon

the nerve centers; and in pain it is useless on account of its slight anæsthetic properties.

On the other hand, potassic bromide is specially useful in nervous wakefulness due to excessive venery, or from sympathy with uterine disorders, or from "unstrung nerves" resulting from abuse of tea, coffee, alcohol or tobacco, or in convalescence from acute disorders. Physiologically it lessens the susceptibility of afferent or sensory nerves, by direct action paralyzing their peripheries. It also quiets cerebral excitement by direct action on the brain centers, and has special control over the genito-urinary nervous system. In large doses it weakens the heart muscle, thus diminishing the force of its beat and the blood pressure, and lowers temperature by retarding tissue change. In doses as large as will be tolerated by the stomach it appears to be harmless, but on account of its weakening effect upon the heart muscle, extreme debility is a contra-indication to its use.

While these two drugs are specially indicated in nervous wakefulness, other symptoms may suggest various combinations. As illustrations — with anæmic and hysterical females the chloral or bromide may be associated with an anti-spasmodic and diffusible stimulant; or in cases due to over mental work or anxiety, accompanied with headache and passive brain congestion, a few drops of the tincture of aconite root, or the fluid extract of gelseminum, or the tincture of veratrum viride may be added to each dose of either medicine. Or mechanical means may be used. Thus in cases where the uterus is the remote cause of the insomnia, a hot vaginal douche, continued for fifteen or twenty minutes, in addition to the bromide, will wonderfully facilitate sleep, provided local conditions do not contra-indicate it.

Still another source of nervous wakefulness is found in extreme physical and nervous exhaustion. Almost every physician has observed the jactitation and delirium after profuse hæmorrhage, or the quiet raving in continued and severe fevers. At first sight wakefulness here would appear paradoxical, for surely with so fluttering a pulse, and so low a blood pressure, anæmia of brain must be excessive. However, the

demands from all parts of the system for increased blood supply, or greater innervation, are so imperative that in the brain centers reflex nerve activity is intense, and anæmia as a cause of sleep is completely overwhelmed. While in such cases opium should be heroically administered, still even such use of this drug will be abortive unless accompanied by the free exhibition of diffusible stimulants and nutrition. A good plate of raw oysters will often cause sleep where a proper dose of morphia alone would utterly fail; and brandy can be a god-send to a patient who has been muttering under the influence of opium for hours.

A third cause of insomnia is high temperature. The effect of heat is to stimulate all functional activity. As long as this stimulation is moderate no evil results, for while tissue disintegration is more rapid, integration is correspondingly hastened. If, however, the heat be excessive, destruction surpasses nutrition, and exhaustion begins. In addition, overtaxed construction produces cells, whose only function is to die, and fatty degeneration follows. Thus with exhaustion and deterioration of tissue, the demands upon the nerve centers for a better nutrition become urgent, and an extreme reflex activity is awakened. Still further, the stimulus of great heat creates an intense molecular vibration in the nerves themselves, and reflex activity is converted into an excessive irritability. Wakefulness, delirium, and even mania, are the necessary results. The situation is critical and perplexing. Arterial sedatives are indicated, but the cardiac weakness frowns upon them; depresso-motors seem called for, but they are powerless before the extreme irritability. Three remedies have partially met this condition, namely: quinine, alcohol, and salicylic acid. In large doses they all decidedly lower temperature and retard tissue change. Salicylic acid probably is the best antipyretic known. (? Ed.) Still their success is but partial; and I am fully convinced, after a careful review of cases, that the direct abstraction of heat is the remedy. It is a positive relief to read of the success that has attended the thorough use of the cold bath in Germany, especially as reported by Jürgensen.

The public, and even physicians, have been slow to learn

that ice, and abundance of cold drinks, are not injurious in fever, and that fever patients cannot catch cold from free ventilation and scanty covering. They should also be brought to look upon the cold bath as a valuable therapeutic agent, and not a dangerous experiment.

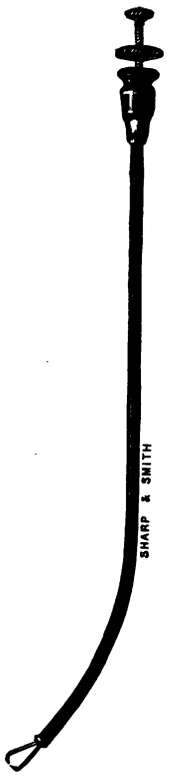
The last cause of insomnia to be considered, namely: determination of blood to the head, while present as a secondary effect in all the causes preceding, is here referred to in a primary sense. Central reflex activity, arising from pain, irritability, or heat, necessitates an increased and active cerebral circulation. Under this head, however, the persistence in the brain of an increased volume of blood, due to chronic derangements of circulation, is referred to. An illustration will explain my meaning, and exemplify the treatment. Practitioners are constantly consulted by patients — most commonly females — whose sleep is fitful and unrefreshing without patent cause. To all outward seeming, their nutrition and innervation is at par. Inquiry, however, develops the fact that they suffer constantly from cold extremities, and periodically from headaches of a congestive character. The underlying cause of their unrest is no doubt in the sympathetic nerve system. The direct cause, however, is an unequal distribution of circulation. In such and kindred cases it would be unwise to direct the medication against the resultant insomnia. Simple logic, unbiased by therapy, would lead to an equalization of blood supply. In many cases this passive brain congestion is in sympathy with some functional derangement. If digestion is at fault (often unrecognized by the patient), it should be corrected. The hours, and quantity and quality of meals, should be regulated. Especially should the supper be exceedingly light, and the dinner eaten near noon. If constipation is habitual, the bowels should be aroused from their torpor, not by purgatives, but by drugs that stimulate their peristaltic action and normal secretions. If the irritation be ovarian or uterine, proper specific treatment should be adopted. Should none of these causes be present, and the maldistribution be apparently due to torpor of the vaso motor nerves, such nerves should be stimulated by mechanical means, such as

exercise, the cold douche, frictions, and electrical shampooing. Perseverance in discovering and treating the remote cause will generally be crowned with brilliant success.

The thoughts thus committed to paper are simply suggestions touching upon the subject, and pointing to a wide field for research. The few drugs mentioned are not chosen as specifics, but as the best representatives of a large class of remedies. When they fail there will be time and opportunity enough for a vast selection.

A LARYNGEAL SPONGE HOLDER AND FORCEPS.

By FRANK H. DAVIS, M.D., Chicago.



The Laryngeal sponge and brush holder shown in the accompanying cut is formed of a hard rubber tube, the size and length of a catheter, conveying through its center a small steel staff. This staff is split at the end with a slightly hooked fork, which spreads as the staff is thrust out from the tube, and is closed or clamped together as it is withdrawn in again. A bit of sponge or the brush from a camel's hair pencil, placed in the fork and the staff withdrawn, is hooked through and tightly drawn against the end of the instrument. The nut at the handle can then be turned up against the end of the tube, and thus prevent any possibility of the brush or sponge becoming detached or dropping into the trachea. The sponge is also readily discharged without the necessity of soiling the fingers, and a fresh one substituted for each application. The instrument has a perfectly smooth even end, with no bulbous enlargement to be caught in the glottis; the rubber hook is also very much better tolerated in its contact with the mucous membrane of the

throat than the ordinary metal holders. By slight heat this curve of the instrument can be adjusted to any angle desired. It is thus rendered available in making applications to the pharynx, anterior or posterior nares, and also for plugging the posterior nares. In this latter operation a silk thread is tied to a bit of sponge caught in the holder, and is passed through the side of the nose to be plugged. The staff being pressed outward will appear with the sponge below the soft palate, and can be seized by a forceps, the sponge detached, and the holder withdrawn. The plug is then attached to the cord, as ordinarily directed in this operation. The instrument is also available as a light laryngeal or nasal forceps for removing small foreign bodies. Its use for this latter purpose must be directed by the laryngeal mirror, and it is consequently not as readily used as the hair snare or probang.

THE MORTALITY OF SURGICAL OPERATIONS IN THE UPPER LAKE STATES, COMPARED WITH THAT OF OTHER REGIONS.

By EDMUND ANDREWS, A.M., M.D.,

Professor of Princples and Practice of Surgery in Chicago Medical College,

Assisted by Thos. B. Lacey, M.D.,

Assistant Surgeon in the National Soldiers' Home.

(Continued.)

LARYNGOTOMY AND TRACHEOTOMY, ABROAD; FOR DIPHTHERIA OR CROUP.

AUTHORITIES.	CASES.	DIED.
Boston City Hosp. Rept.	9	5
Prof. Wilms, of Berlin	335	232
Arch. klin. Chir. Dr. Kühn, B. 8	277	152
K. k. allg, Krankenhaus, Wien	10	7
St. Bartholomew's Hosp. Repts.	10	6
Totals	641	402

Mortality, 63 per cent.

LARYNGOTOMY AND TRACHEOTOMY FOR DIPHTHERIA OR CROUP, ABROAD.

Arranged by Ages, from Prof. Wilms, of Berlin.

	CASES.	DIED.	PER CENT. MORTALITY.
Under 2 years	6	6	100
From 2 to 3 years	56	41	73
From 3 to 4 years	69	47	68
From 4 to 5 years	74	56	76
From 5 to 6 years	57	37	65
From 6 to 7 years	33	18	55
From 7 to 8 years	21	16	76
From 8 to 14 years	19	11	58

LARYNGOTOMY AND TRACHEOTOMY ABROAD, FOR ŒDEMA GLOTTIDIS.

AUTHORITIES.	CASES.	DIED.
Archiv. klin. Chir., B. 8, S. 559	73	19

Mortality, 26 per cent.

LARYNGOTOMY AND TRACHEOTOMY, ABROAD; FOR REMOVAL OF FOREIGN BODIES.

AUTHORITIES.	CASES.	DIED.
Archiv. klin. Chir., B. 8, S. 559	149	40
Dr. Durham, Holmes' Syst. Surg., Vol. II., p. 496	167	37
Prof. Hamilton, of Columbus Med. Col., O.	46	12
Totals	362	89

Mortality 25 per cent.

LARYNGOTOMY AND TRACHEOTOMY FOR ALL CAUSES, ABROAD.

AUTHORITIES.	CASES.	DIED.
Boston City Hosp.	15	6
A. E. Durham's collection of cases operated on for foreign bodies, Holmes' Syst. Surg.	167	37
Med. and Surg. Hist. War of Rebel'n, Vol. I., Pt. I.	20	13
K. k. allg. Krankenhaus, Wien	46	22
Statist. des Hôpit. de Paris, 1861–3	513	354
Hôpit. des Enfants ,Malades, Paris, 1851–63, quoted by Fischer & Bricheteau, Traitement du Croup, etc.	1013	749
Hôpit. St. Eugénie, Paris, 1854–61, same authority	396	329
Same Hospt., 1862–3. Statist. des Hôpit., Paris	225	153
Other Hosp of Paris. " " "	17	11
Dr. J. Kühn, Arch. klin. Chir., B. 8, S. 559	707	269
Totals	3119	1943

Mortality, 62 per cent.

OPINIONS OF AUTHORS.

Dr. H. A. Johnson, Prof. of Diseases of the Respiratory and Circulatory Organs in the Chicago Medical College, has had more experience in tracheotomy, probably, than any one in the Lake States. He gives the following opinion:

"Tracheotomy or laryngotomy should be performed in all cases of threatened asphyxia from causes which cannot be speedily removed by other methods, as for instance in cases of

"1. Foreign bodies in the larynx not easily reached and removed through the natural passages.

"2. Œdema of the glottis, threatening death from asphyxia.

"3. Tumors, malignant or non-malignant, in the larynx, threatening asphyxia, and not easily removed through the natural passages.

"4. Acute inflammation, simple or diphtheritic, producing so much obstruction to respiration as to materially diminish oxygenation of the blood.

"The danger in all these cases is not so much from the operation as from the disease for which it is performed, hence the earlier it is done the better.

"The operation is seldom successful in children under two years of age.

"In young subjects especially high tracheotomy is preferable to the low operation.

"Ether may be given when there is not much asphyxia, but in the asphyxiated condition there is already anæsthesia. The exhibition of ether in such condition probably adds to the danger."

A. E. Durham, of Great Britain, (Holmes' System of Surgery,) says laryngotomy should not be performed in early childhood, on account of the small size of the crico-thyroid membrane; nor in acute or extensive disease or injury of the larynx, but is adapted for adults, and especially for males. It is the best operation for foreign bodies impacted in the larynx, and for polypus, stricture and limited chronic disease of the organ. He recommends laryngo-tracheotomy when the patient is too young for laryngotomy, and the surgeon fears to go below, but not for adults, lest the voice be injured.

Tracheotomy he advises for adults, and generally the lower operation in dyspnœa from acute laryngitis, polypi, syphilitic diseases, etc.

A. W. Barclay, of Great Britain, (Holmes' System of Surgery, Vol. IV., p. 513,) says in respect to membranous croup, "Our chief resource for prompt relief to breathing is tracheotomy." He distinguishes membranous croup from diphtheria, and is dubuous about the operation in the latter disease, but concludes that it is justifiable where the dyspnœa is so urgent as to throw other symptoms into the shade.

Erichsen says that tracheotomy and laryngotomy are required in croup and diphtheria when the laryngeal obstruction to respiration is great, and pulmonary and bronchical disease relatively slight. Many cases of dyspnœa from other diseases and from accidents also require it.

Gross advises tracheotomy in urgent dyspnœa in œdema glottidis, diphtheria, etc., and also for foreign bodies in the air passages.

Hamilton prefers crico-thyroid laryngotomy in apnœa from hanging, drowning, and other causes requiring haste, thyrotomy for laryngeal growths, and high tracheotomy for most cases of diphtheria and croup requiring operative relief. Low tracheotomy he admits only for cases complicated with bronchocele, or for impaction of foreign bodies in the bronchi.

Druitt advises tracheotomy or laryngotomy for threatened asphyxia from croup, diphtheria, or from any other disease.

CONCLUSIONS.

The opinions of Prof. H. A. Johnson, quoted above, express the results of the best investigations on this subject so correctly that it seems unnecessary to do more than refer to them as in my opinion giving the proper indications for this operation.

As between the Lake States and other regions the figures show to our disadvantage, thus:

Mort. of laryngotomy and tracheotomy, 54 per cent.
Ditto in Lake States, ... 81 " "

I think this inferiority in the results of our surgery is due to two causes:

1. Operating on too many patients below the age of two years.

2. Delaying the operation until the patient was too far exhausted to recover.

The operation ought to be performed earlier.

LITHOTOMY.

Calculous diseases of the urinary organs in the Lake States seem to be less frequent than in Missouri, Kentucky and Tennessee. This is probably due to the fact that the water of the Great Lakes, which furnish the drink of all the towns on its shores is almost destitute of any mineral constituents, and differs but little from rain-water. Hence there is probably no surgeon on these shores who can show a list of cases so numerous as some of the operators elsewhere have done.

TABLE XIV.

LITHOTOMY.

NO. IN MY REC'D	OPERATOR.	Sex.	Age.	DESCRIPTION OF CALCULUS.	COMPLICATIONS.	OPERATION.	Cond. at opr	Time to Operation.	Result.	Time to death or recovery.	Practice.
------	Dr. Z. Pitcher	F	12	Large calculus	------	Supra-pubic	------	------	recovered	------	Private
54	Dr. E. Andrews	M	7	Calculus fusible, 1 x1½ in.	Dribbling of urine.	Lateral	Good	------	died	4 weeks	Hospital.
20	" "	M	38	" " 1 x1¾ "	Chronic cystitis	"	"	some years	recovered	------	Private
271	" "	M	11	" " 2½x ¾ "	None	"	"	------	"	30 days	"
1294	" "	M	5	" " 1 x1½ "	"	"	"	------	"	6 weeks	"
1720	" "	F	55	" " 1 x1¼ "	"	Forward to pubis & left	"	------	"	------	"
1746	" "	M	65	" " ¾ "	Severe hemorrhage fr. bladder be. op.	Lateral	Bad	4 years	died	2 days	"
1755	" "	M	35	" " ¾ "	None	"	Med	some years	recovered	------	"
1766	" "	M	6	" " ¾ "	"	"	Good	1½ years	"	------	"
1783	" "	M	35	" " 1¼x1¾ "	"	"	"	1½ years	"	25 days	"
1785	" "	M	5	" " 1¼x1¾ "	"	"	"	------	"	------	"
1789	" "	M	7	" " 1¼x2 "	"	"	Bad	several yrs.	"	------	"
5700	" "	M	12	" " 1 x2 "	Incontinence of ur.	"	Med	4 years	died	11 weeks	Hospital.
5176	" "	M	2	" " ¾ "	None	"	"	since birth.	recovered	------	"
6060	" "	M	3	" " ½ "	"	"	Good	------	"	------	Private
6151	" "	M	35	" " ⅞ "	"	"	"	some years	"	------	"
6550	" "	M	52	2 Calculi	"	"	Med	"	"	3 weeks	Hospital.
6836	" "	M	--	Calculus mulberry, 3½ dr.	"	"	"	------	"	3 "	"
6930	" "	M	--	" fusible, 1x1¼ in.	"	"	"	------	"	4 "	"
7017	" "	M	40	2 " "	"	"	"	------	"	4 "	"
7526	" "	M	4	2 " small	"	"	Good	------	"	------	Private
7799	" "	M	2	" 1¼ in. long	"	"	"	------	"	1 mos	"
7693	" "	M	5	Phosphatic calulus, 1x1¼	"	"	"	1 year	"	3 weeks	"
8497	" "	M	58	9 " " comb. 5½oz	"	"	"	Unknown	"	6 "	Hospital.
8515	" "	M	11	Calculus in memb. portion of uretha, 2½ in. long	"	"	"	"	"	------	"

TABLE XIV.—Continued.

8535	Dr. E. Andrews.	M	23	Calculus	None	Lateral	Good		died	8 days	Hospital.
8584	" "	M	7	"	"	"	"	5 years	recovered		"
7626	" "	M	4	" 1¼x1⅛ in.	"	"	"	2 years	"		Private
7628	" "	M	14	Mulberry calculus, 1 in	"	"	"	some years	"		"
7721	" "	M	35	Phosphatic " 1⅜x1¾ in.	Delirium and exha.	"	Bad	2 mos	died	4 hours	"
8727	" "	M	25	" " 1¼ "	None	"	Good		recovered		Hospital.
.....	Dr. J.S.Sherman	M	7	Oxalate of lime calculus	"	"	"	6 mos	"		"
.....	" "	M	6	Small, soft phos. "	"	"	"		"		"
.....	" "	M	40	Phosphatic " 5 drs.		"	Med	4 years	died		"
.....	" "	M	78	Dark-colored " 4 "		"	Bad	20 years	"		"
.....	" "	M	..	Phosphatic " 3¼ "		"	Good	3 years	recovered		"
.....	" "	M	35	Large calculus, 2⅘ oz.	Ulcers and thickening of bladder. Ulcer of rectum.	Bilateral	Bad	15 years	died	65 days	"
.....	Cook Co. Hospit	M	7	Calculus		Lithotomy			"		"
.....	Dr. E. Owens	..	6	"		Lateral			recovered	6 weeks	"
.....	" "	..	24	"		"	Bad	some years	died	4 "	"
.....	Dr. H. Wardner	M	9	"	None	"	"	12 mos	recovered	3 "	Private
.....	Dr. E. D. Kittoe	M	42	1 large, several small calculi	"	Supra-pubic	Med	14 years	died	2 "	"
.....	" "	M	9	Calculi both in uretha and bladder	Urinary fistula	Lateral	Bad	8 years	recovered		"
.....	" "	M	7	Calculus, wt. 6 dr.	None	"	Good	4 years	"		"
.....	Dr. J. Andrews	..	35	"		"			"		"
.....	Dr. E. Powell	M	7	"	None	"	Good		"		"
.....	Dr. S. S. Bedal	M	35	" 2x1½ in	Cystitis	Bilateral	Med	10 years	"		"
.....	Dr. J.S.Sherman	..	6	" wt. 3 dr.	None	Lithotomy			"		"
.....	" "	..	25	" ¼x1 in.	"	"	Med		"		"
				LITHOTRITY.							
5366	Dr. E. Andrews.	M	..	" concreted around a roll of chewing gum	"	10 sittings in 19 days	Good		"	1 month	Hospital.

RECAPITULATION.

	CASES.	DIED.	PER CENT. MORTALITY.
Total Lithotomy	48	11	23
Lithot. over age of puberty	21	8	38
" under " "	26	3	12
Hospital	21	8	38
Private practice	28	3	11
Lithotrity	1	0	0

LITHOTOMY ABROAD.

AUTHORITIES.	CASES.	DIED.
Gross' cases—Gross on Ur. Org., p. 276	140	12
Mott's " " " " p. 276	162	7
Mettauer's " " " " p. 276	91	4
Kissam's " " " " p. 276	65	3
Goldsmith's " " " " p. 276	58	3
N. R. Smith's " " " " p. 276	45	3
Dudley's cases, Ky., given by Eve, Trans. Am. Med. As. 1871	225	7
Eve's cases, Tenn., adults	51	8
" " " children	45	3
Pope's cases, St. Louis, Mo., adults	35	2
" " " " children	32	2
Boston City Hospital Report	5	0
Pennsylvania Hospital	111	90
United States Marine Hospital Report	1	0
Circular No. 3, S. G. O.	9	1
Sir Henry Thompson's British Collection minus, the Norwich cases	1034	123
Mr. Chas. William's table of Norfolk and Norwich cases for 97 years	1015	132
St. Bartholomew's Hospital	73	13
St. George's "	17	1
British Army Reports	6	0
Luneville's Hosp.—Gross on Ur. Org., p. 276	365	33
Hotel Dieu, La Charitè and Hôp. des Enfants—Gross on Ur. Org., p. 276	133	33
St. Mary's Hosp., Moscow—Gross on Ur. Org., p. 276	411	42
Loretto Hosp., Naples— " " " p. 276	553	82
Saharunpore Disp., India— " " " p. 276	824	108
K. k. allg. krank. Wien	65	25
Mission Hosp., Canton, China, Dr. Kerr	187	19
Totals	5758	576

Mortality, 13 per cent.

The effect of age is shown by the following figures of Sir Henry Thompson:

MORTALITY OF LITHOTOMY AT DIFFERENT AGES.

DURING THE YEARS.	CASES.	DIED.	PER CENT. MORTALITY.
1 to 5, inclusive	473	33	7
6 to 11, "	377	16	4
12 to 16, "	178	19	11
17 to 20, "	76	11	14
21 to 29, "	86	11	13
30 to 38, "	75	7	9
39 to 48, "	100	17	17
49 to 58, "	191	40	21
59 to 70, "	233	63	27
71 to 81, "	38	12	32

The following figures are taken from Mr. Keith's table, British Medical Journal, March 20, 1869, and show the mortality in groups of twenty years:

AGE.	CASES.	DIED.	PER CENT. MORTALITY.
Under 21 years	1530	151	10
21 to 40 years	356	66	19
41 to 60 "	477	108	23
Over 60 "	479	156	33

Dr. Dulles, of Philadelphia, in the Am. Jour. Med. Sci., July, 1875, gives a table showing how the dangers of lithotomy increase with the weight of the stone, as follows:

Under one ounce.....Mortality, 9 per cent.
One to two " ..... " 16 " "
Two to three " ..... " 41 " "
Three to four " ..... " 43 " "

Mr. Crosse and Dr. Gardner calculate the mortality according to size as follows for the Norfolk and Norwich Hospital and the Saharupnore Dispensary:

	CASES.	DIED.
One ounce and under	969	88
One to two ounces	249	38
Two to three ounces	68	25
Three to four ounces	21	12
Four to five ounces	11	6
Five to six ounces	7	2
Six to seven ounces	2	2
Totals	1327	173

MEDIAN OPERATION.

Prof. Gross (Urin. Org., 1876,) gives the following collections:

	CASES.	DIED.
American Surgeons	205	9
Reyer, of Cairo	56	9
Norfolk and Norwalk Hosp.	64	13
Pemberton, of Birmingham	25	1
Totals	350	32

Mortality, 9 per cent.

BILATERAL OPERATION.

Cases, 536. Died, 41. Mortality, 8 per cent.

RECTO-VESICAL OPERATION.

Cases, 83. Died, 16. Mortality, 19 per cent.

SUPRAPUBIC OPERATION.

Dr. Dulles, of Philadelphia, gives the following comparison between the lateral and suprapubic operrtion, which seems to indicate that tne latter is safest for stones of very large size, but not for those of less than two ounces weight:

WEIGHT OF STONE.	LATERAL OPER.		SUPRAPUBIC OPER.	
	CASES.	DIED.	CASES.	DIED.
Under one ounce	529	47	14	3
One to two ounces	119	18	21	4
Two to three ounces	35	16	14	4
Three to four ounces	11	7	19	6
Four to five ounces	5	3	16	7
Five to six ounces	2	0	11	4
Six to seven ounces	2	2	2	1

LITHOTRITY.

This operation has been inexcusably neglected in the Lake States. I have record of only one case, which was however successful.

LITHOTRITY ABROAD.

AUTHORITIES.	CASES.	DIED.
Brodie	115	9
Fergusson	109	12
Keith of Aberdeen	116	7
Thompson	204	13
Crichton	122	8
Boston City Hospital	1	0
Pennsylvania "	14	2
Trans. Am. Med. As., 1871, Prof. Eve	4	0
Trans. N. Y. Med. Soc.	49	9
Statist. Hôp. de Paris, 1861-2-3	56	9
Civiale, Paris	591	14
K. k. allg. Krank, Wien	42	16
Lücke, Berne	2	0
Dr. J. G. Kerr, Mission Hosp., Canton, China	30	3
Totals	1455	102

Mortality, 7 per cent.

The large figures of Civiale, in the above list, showing a mortality only one-third that of the best surgeons elsewhere, have been received with much incredulity, and even gave rise to direct charges of falsehood; especially as the official statistics of the hospitals of his own city show a mortality six times as great.

It would be, perhaps, safer to exclude the Parisian statistics from the list entirely, which would leave the results of the operation elsewhere, as follows: Cases, 808; deaths, 79; mortality, 10 per cent. Probably this is not far from the truth.

OPINIONS OF AUTHORS.

Civiale was almost the inventor of lithotrity, or, at least, he was the first to give it a practical form, and to establish it in the profession. He advocated it warmly as a matter of course.

Sir Henry Thompson says that lithotomy should not be performed in adults, for stones, unless they are above the middle size, say larger than an almond; but lithotrity be substituted for it. Above the middle size he would be guided by the condition of the patient, as to his probable ability to

bear the number of sittings requisite to pulverize such large calculi.

Most authors prefer lithotomy for children, both because the risk is slight and because the uretha is inconveniently small for lithotrity, and the child will not readily remain quiet during the sittings of the latter operation; yet Fergusson and others have performed it on children, and Coulsen claims that it will prove safer for them than lithotomy.

Mr. Hawkins (Holmes, Syst. Surg., Vol. IV, p. 1112) opposes lithotrity in children, but that in adults irritable bladders and diseased kidneys do not, as was formerly thought, necessarily forbid it.

Erichsen, Bryant, Morland, Gross, Ashurst and Hamilton agree for the most part as follows.

Lithotomy is generally to be preferred:

1. In children.
2. In very narrow and irritable urethrás, with the calculus large.
3. In cases with badly diseased, irritable, sacculated or very atonic bladders.
4. In very hard stones over an inch in diameter, or softer ones over an inch and a half in diameter.

Lithotomy is preferred by these authors in nearly all other cases, but the rules must be subject to exceptions in cases where special combinations of circumstances require it.

CONCLUSIONS.

Lithotomy is a rather rare operation in the Lake States. Its success here is also less than abroad, a fact in striking contrast with most other operations.

Of our forty-eight cases on record eleven died, which is twenty-three per cent., while the rest of the world gives us in over five thousand cases a death rate of only thirteen per cent.

If we compare the Lake States with Missouri, Kentucky and Tennessee the contrast is still greater. In the latter States three hundred and eighty-eight cases give only twenty-two deaths, which is less than six per cent. The only reason

which I can offer for our inferior results is, that the disease being rare in the Lake States, the people, though so alert in business affairs, are unaccustomed to think of this disease, and in its earlier stages rarely suspect its existence. On this account they generally neglect it until it is so far advanced that the safest period for operation has passed by.

One of my worst cases was that of a highly educated man who had a calculus for many years, and yet obstinately refused to entertain the idea of its existence, and rejected all the advice of his physician to submit to an examination.

The remarkable results of lithotomy in Missouri, Kentucky and Tennessee are due to several causes:

1. The frequency of the disease keeps the populace alert on the subject, and prompt to seek aid if it is suspected.

2. Owing to the mildness of the climate the houses are extremely open to ventilation, even in many cases to the actual absence of doors and to the leaving out of all "chinking" from the intersticies of the numerous log cabins. Houses are built, not for tightness and warmth as in our cold climate, but for coolness and ventilation. The patients, therefore, are exempt, from many causes of pyæmia and other septic complications.

3. The population is thoroughly well fed and magnificently developed, averaging considerable taller and larger than in most other States. They are, therefore, better subjects for operation than the denizens of northern States, who are largely immigrants from Europe.

4. Dr. Dudley, of Kentucky, selected his cases. Prof. Eve says that in addition to his two hundred and twenty-five operations there were about eighteen patients, or seven per cent. of all whom Dudley rejected on account of their bad condition. If any surgeon rejects seven per cent. of his most unpromising cases it will make a great difference in the per cent. of mortality, yet few conscientious men will feel justified in refusing to give a man a chance for his life simply because that chance is not as good as the average.

Dr. Dudley, I believe, generally used a gorget, and the bilateral incision. If I am correct in this, his large number

of selected cases is probably the reason why our figures show only eight per cent. of mortality for the bilateral method. The old rule is probably true which reserves the bilateral incision for the larger stones.

The results of the median operation seem to show very favorably, giving a mortality of only nine per cent., but it must be remembered that these are selected cases, only small stones being operated on by that method, and hence the figures give no true basis of comparison. Mr. A. Poland, in Holmes' System of Surgery, compares sixty-four cases of median with sixty-four cases of lateral lithotomy, and finds that the lateral proved the safest. On the whole it seems doubtful whether the median method possesses any decided advantage, and in future we shall hear less of it except in children, because it is now conceded that the majority of adult cases adapted to that plan are better treated by lithotrity.

Suprapubic lithotomy seems, if the small number of tabulated cases can be trusted, to be the safest plan in stones weighing over two ounces.

LITHOTRITY.

This operation has been greatly and improperly neglected among us. We have not cases enough to determine its risk. Abroad the average mortality has been seven per cent., or if we exclude the enormous and disputed list of Civiale, it will be ten per cent.

The later operations seem more successful than the earlier. Perhaps seven per cent. may approximately represent the present average.

There is no doubt that in almost all adult cases lithotrity is the safest operation, and that it should be preferred whenever special conditions of the patient do not render it ineligible. The present drift of science favors extending the application of the operation as much as possible.

OPERATIONS FOR MECHANICAL OBSTRUCTIONS OF THE INTESTINES.

Of these I find record of fifty cases, which are here subjoined:

TABLE XV.

OPERATIONS FOR MECHANICAL OBSTRUCTION OF INTESTINES.

No. in Rec	OPERATOR OR REPORTER.	Age.	CAUSE OF OPERATION.	COMPLICATIONS.	OPERATION.	Con-diti'n	Duration before operation	Result.	Practice.
22	Dr. E. Andrews..	14	Strangulated congenital hernia.....	None	Herniotomy	Good	.....	Recov'r'd	Private ..
21	" " ..	60	" scrotal "	"	"	"	.....	"	" ..
695	" " ..	40	" femoral "	"	"	"	.....	"	" ..
1562	" " ..	58	" umbilical "	Mortified intestine	"	"	.....	"	" ..
7694	" " ..	45	" femoral "	None	"	"	36 hours .	"	" ..
7516	" " ..	38	" " "	"	"	"	.....	"	" ..
7722	" " ..	50	" " "	"	" opened sac.....	Med .	3 days ...	"	" ..
8770	" " ..	30	" inguinal "	"	" " "	Good	50 hours .	"	Hospital.
7725	" " ..	4	" " "	"	"	"	30 hours .	"	Private ..
7756	" " ..	35	" " "	Gut mortified.....	" artificial anus.....	Bad..	6 days ...	Died.....	" ..
7754	" " ..	30	" " "	None	" sac opened.....	Good	5 days ...	Recov'r'd	" ..
8770	" " ..	27	" " "	"	" " "	Med..	48 hours .	"	Hospital.
....	Dr. A. Fisher....	60	" " "	Mortified intestine	" artificial anus.....	Bad..	3 days ...	"	"
....	" "	65	" " "	None	"	" ..	20 hours .	"	"
....	" "	20	" " "	"	"	Good	36 " .	"	"
....	" "	36	" " "	"	"	Bad .	40 " .	"	"
....	Dr. F.W.Mercer..	..	" hernia.....	.....	"	.....	10 " .	"	"
....	Cook Co. Hospit.	..	"	.....	"	.....	.....	"	"
....	Dr.H.A.Johnson..	.	" femoral hernia.....	.....	"	.....	.....	Died	Private ..
....	Dr. N. Senn.....	60	" inguinal "	Peritonitis	" opened sac.....	Bad..	4 days ...	"	" ..
....	" "	65	" femoral "	"	" " "	" ..	6 " ...	"	" ..
....	" "	50	" " "	None	" " "	" ..	6 " ...	Recov'r'd	" ..
....	" "	52	" inguinal "	Gut mortified.....	" " "	Med..	5 " ...	Died	" ..
....	" "	62	" " "	" "	" " "	" ..	4 " ...	"	" ..
....	" "	28	" " "	" "	" " "	" ..	2 " ...	Recov'r'd	" ..
....	Dr. J. Andrews..	51	" femoral "	.....	"	.....	2 " ...	"	" ..
....	" " ..	84	" scrotal "	.....	"	.....	15 hours .	"	" ..
....	" " ..	48	" " "	Gut mortified.....	"	.....	10 " ..	Died	" ..
....	" " ..	34	" inguinal "	" "	"	.....	2 days ...	Recov'r'd	" ..
....	" " ..	55	" " "	Cartilaginous tumor on protud. int.	"	.....	2 or 3 day	Died	" ..
....	Dr. E. W. Lee....	..	" " "(large)....	None	Pneumatic aspiration	Bad .	5 hours ..	Recov'r'd	" ..
....	Dr. F.W.Mercer..	..	" hernia.....	Not stated.....	Herniotomy	.....	.....	"	.....
....	" " ..	..	" "	" "	"	.....	.....	"	.....
....	" " ..	..	" "	" "	"	.....	.....	"	.....
7787	" " ..	55	" inguinal hernia.....	None	" opened sac.....	Good	4 hours ..	"	Private.

TABLE XV.—Continued.

----	Dr. E. Andrews	--	Cancerous stricture of rectum	None	Lumbar colotomy	Med.	----------	Recov'r'd	Hospital.
92	" " "	25	" " "	----------	Forced dilatation	Bad.	2 years.	Improved	Private
133	" " "	--	Stricture of rectum	None	Gradual "	Good	----------	"	"
6232	" " "	36	Cancerous stricture of rectum	----------	Forced "	"	2 years.		
6506	" " "	43	Stricture of rectum	None.	" "	"	2 "	"	Hospital.
7227	" " "	--	" "	----------	Cut the stricture	"	----------	Cured	"
7602	" " "	30	" "	Lupus of anus	Forced dilatation	"	----------	Improved	Private
----	" " "	60	" "	----------	" "	Bad.	----------	Died	Hospital.
----	" " "	28	" "	None	" "	Good	----------	Improved	"
7784	" " "	35	" "	"	Gradual "	"	----------	"	Private
----	" " "	35	Intussucception	"	Pneumatic aspiration	Med.	3 days	Died	"
----	" " "	25	"	"	Forced injections	"	1 day	"	Hospital.
----	" " "	20	"	"	" "	Good	8 hours	Cured	Private
----	" " "	37	"	"	" "	"	24 hours	"	"
----	" " "	37	"	Gut mortified	" "	Bad.	----------	Died	"
----	" " "	40	"	None	" "	Med.	1 day	"	"

RECAPITULATION.

	CASES.	DIED.	PER CENT. MORTALITY
Herniotomy	34	8	24
Pneumatic aspiration of strangulated hernia	1	0	0
Forced injections for intussusception	5	3	60
Pneumatic aspiration for intussusception	1	1	100
Forced dilatation of stricture of rectum	6	1	17
Gradual dilatation of stricture of rectum	2	0	0
Incision of stricture of rectum	1	0	0

HERNIOTOMY ABROAD.

The literature of the profession furnish the following statistics:

AUTHORITIES.	CASES.	DIED.
Bellevue and Charity Hosp., New York, Hamilton	31	15
Boston City Hosp.	10	7
Boston Private Practice of Dr. Cheever	17	7
United States Marine Hosp. Repts.	5	1
London Hosps.: quoted Arch. klin. Chir., Bd. 8, S. 30	326	136
Large British Prov. Hosps. " " " " "	177	72
Small " " " " " " " "	118	53
Dutrepont's personal observations	12	1
Paris Hosps., Old statistics of Malgaigne	220	133
" " Statist. des Hôp. de Paris, 1861-2-3	172	136
Textor's Cases, Wurtzburg	56	24
K. k. allg. Krankenhaus, Wien	259	114
Deutsch, Zeitschrift, Bd. 2, S. 381	27	16
Arch. klin. Chir., Bd. 11, S. 320, 341	45	15
Totals	1475	730

Mortality abroad, 49 per cent. Mortality in the Lake States, 24 per cent.

It thus appears that the danger of this operation in the Lake States is less than half that of the published statistics abroad. I can only account for this by the fact that the alert, wide awake western man when he has a strangulated hernia which he cannot reduce himself, comprehends the urgency of his case, and promptly sends for professional help. The operations are therefore performed early, and are consequently successful.

The slowness of the same people to apply for help in cases of calculus is because the latter disease being rare here, and coming on insiduously, is not understood nor suspected until a late period of its progress.

OPINIONS OF AUTHORS.

There is no controversy, of course, as to the frequent necessity of this operation, and still further, all surgeons are agreed that when necessary it should be performed at the earliest practicable moment, as every hour increases its danger.

Almost the only point of controversy has been whether the peritoneal sac should be opened, or the stricture divided outside the sac.

Erichsen, Hey, Ashton, Key, Luke, Druitt, Bryant and Holmes prefer division of the stricture outside the sac except where fear of mortified intestine or other special reasons forbid. Sir Astley Cooper preferred the extraperitoneal division in large old hernias, operated on early. Ashurst favors it in all cases where the taxis is justifiable. Gross and Birkett favor it in mild and recent cases, while Gant, Lawrence, J. F. Smith, Hamilton and Pirrie think that the sac should usually be opened, and the extraperitoneal division be reserved for exceptionally favorable cases.

Statistics have been gathered to decide the question, but I have not inserted them, because they are worthless. At first glance the extraperitoneal shows much less mortality than the other method; but the fact that the early cases only are selected for extraperitoneal division, shows that this operation is performed on much the safest class of patients, while the later cases, where there is risk that the gut may be mortified, compel the opening of the sac.

Late cases are always dangerous, whether there is mortification or not; hence, there is no proper basis of comparison. There are no reliable statistics of the two operations performed on patients of the same quality.

CONCLUSIONS.

Herniotomy is indicated whenever other means of relief fail, and should not be delayed a single hour unnecessarily. When there is strong reason to fear that the gut may be already mortified the taxis should be omitted for fear of returning a mortified intestine, and herniotomy should be

resorted to at once. Every hour of delay increases the danger.

If the strangulation is so recent and mild that it is morally certain that no mortification has yet occurred, the extraperitoneal division is the best, unless special circumstances forbid, for it diminishes the risk of peritonitis. The aspirator, of course, should never be used in a case deemed to be too far advanced toward mortification for prudent taxis, but it seems probable that in early stages it may be a valuable assistant to successful reduction, and experience has not yet developed any special dangers in its use.

(To be Continued.)

THE PATHOLOGICAL TRANSACTIONS OF THE CHICAGO MEDICAL SOCIETY.

EDITED BY DR. I. N. DANFORTH.

I.

CASE OF EPITHELIOMA.

BY T. P. SEELEY, A.M., M.D.

Read before the Chicago Medical Society, Nov. 6, 1876.

W. H., American, male, aged seventy, a hotel proprietor, tall and spare, called at my office January 10, 1876. He was suffering from an extensive ulcer of the palmar surface of the right thumb, extending from the middle of the hand nearly to the second joint, the first joint being much inflamed.

The history of the case, as given by the patient, was that fifty years ago, at the age of twenty, while leaning on an old fashioned mantel piece, he fainted, fell into the fire and burned the hand so extensively that all the fingers had to be amputated through the first phalanges. The other arm and the back were also severely burned. It was about a year before the ulcer entirely healed, and frequently since then it has become fissured and sore, especially in the winter time.

A year ago last winter it broke out again, and the treatment by plasters and ointment, by which before it had been healed, entirely failed.

In December last a homœopathist applied a solution of chloride of zinc and tincture of blood root for twenty-four hours, producing intense pain and increasing the size of the ulcer. A second application for thirty-six hours produced such agony that the patient could endure it no longer; hence he removed the application, finding the first joint inflamed and the ulcer still more extended.

It was soon after this that he came to me. The granulations were excessive and weak, and he was suffering so much pain that he had little rest day or night, and very little appetite. Anodyne lotions, on patent lint, were first applied, and the arm supported in a sling, and quinine, iron and opium given internally.

Under this treatment the acute inflammation was allayed, the suffering much relieved and healthy granulations commenced around the edges. The central fungus granulations were repressed by nitric acid. Nitrate of silver and various astringents were applied, and support, and a moderate pressure kept up by adhesive straps.

The cicatrization, however, did not proceed satisfactorily, and I proposed the operation of removing the thumb at the carpo-metacarpal joint with the excessive granulations, and covering the ulcer with the integuments from the back of the thumb. The patient was very much opposed to the use of the knife, but was at length persuaded, on the approval of Dr. Gunn, to submit to it. With the assistance of Drs. Fitch, Brauer and Bridge, the operation was performed on the 9th of March, Esmarch's apparatus being used and very little blood lost. The flap from the back of the thumb was made to cover the whole denuded surface, and united to the palmar edge which had been pared, by sutures and adhesive straps. An antiseptic dressing of cotton soaked in a weak solution of salicylic acid was used, on the removal of which, in about five days, the flap was found united to the surface, and a portion of the border, leaving about one-half to close by granulation. This process went on rather slowly until the patient, about a month after the operation, took a severe cold from exposure to a north wind on returning from my office. He had a

decided chill followed by acute bronchitis. Fearing pyæmia, I made a liberal use of quinine and iron, under which treatment he gradually improved, but the portion of the edge of the flap which was not united began to deteriorate, and, notwithstanding all that could be done, including the use, for a week, of boracic acid, suggested by Dr. Gunn, the ulcer increased slowly until the sixth of June, when, with the assistance of Drs. Graham and VanBuren, I amputated the forearm a little above the middle to avoid one of the old cicatrices. With the exception of the skin the parts united well under the salicylized cotton dressing, which was allowed to remain for a week. There was hardly any suppuration, but granulation proceeded slowly, so that it was about two months before the stump was entirely healed.

Several sections of the border of the ulcer in the hand were made by Dr. Danforth, which, on examination with the microscope, were found to contain the typical epithelioma cells.

Soon after the cicatrization of the stump a lymphatic gland near the axilla was found enlarged; and as the patient was unwilling to have it removed, it increased to the size of the end of the thumb, became inflamed, and on being opened discharged a thick, cheesy pus, and has continued to discharge about a month, the patient using some ointment that has been recommended to him, not being now under my professional care.

MICROSCOPY AND PATHOLOGY. Upon receiving the amputated hand from Dr. Seeley, I removed ample specimens of the diseased portion, and entered upon the study of its microscopic structure with great interest, as I had seen the case some months previously, and had taken *my* turn at trying to cure it. Numerous thin sections were made in various directions. These were then stained with Beale's carmine, slowly dehydrated by alcohol, passed through oil of cloves to remove the alcohol, and mounted in Woodward's solution of balsam in benzole. Upon carefully examining the sections under different magnifying powers, I could come to but one conclusion,

namely: that the case was one of undoubted and undeniable epithelioma. The typical structure of skin-cancer was too manifest to admit of a doubt. The so-called "cancer cylinders" were present in great perfection, and as the thin slices were made in various directions I could study them from different aspects. Out of a considerable number of mounted sections I selected the one which seemed to me, in the most perfect manner, to illustrate the history and probable mode of development of epithelioma in the present instance.

FIGURE 2.

TO ILLUSTRATE DR. SEELEY'S CASE OF EPITHELIOMA.

Structure as seen under a magnifying power of 132 diameters. Drawn by aid of camera lucida, and reduced by photography.

Fig. 2 shows, with very great accuracy, the appearance presented by a section cut in the direction of the hair follicles and sebaceous and sweat glands; that is, through the diseased tissue perpendicularly, or at a right angle to the exposed sur-

face. The open space at *a* is probably a hair follicle divided longitudinally. It is much distorted by the changes in the surrounding connective tissue, and when first examined was distended by an accumulation of large polygonal nucleated cells, due to the atypical proliferation of the compound endothelial layer of the follicle.

Subsequently, by the process of dehydration, and the various manipulations incident to "mounting" the specimen, these cells were mostly washed away; a few of them are seen, however, in the figure. It is possible that, instead of being a true hair follicle, the space referred may have been one of the subdivisions of a sebaceous gland, opening into a hair follicle; but I judged it to be the latter, because, after the section was made, a fragment of a diseased hair remained in the space, and could be distinctly seen, both by myself and others who examined the specimen.

Of course, however, it makes no practical difference which of these two glandular structures it may have been. The real point is as to the epithelial or non-epithelial origin of the new cell growth. At *b b b* are seen several of the so-called "cancer cylinders," divided longitudinally, and these are very perfectly shown, both in the specimen and in the figure. These cylindriform bodies, when first examined in glycerine, were found to be literally stuffed with cells which closely resemble those in the open space already described. But they are rendered so exceedingly transparent by the action of oil of cloves and balsam that they can scarcely be seen by the camera lucida; hence, there are but comparatively few shown in the figure. They are very plainly demonstrable under the microscope, by using a Hartnack No. 5 obj. with a somewhat dim oblique illumination. These "cylinders" are manifestly the product of the rapid and lawless multiplication of the epithelial cells of the degenerated hair follicle. The resemblance between the cells of each is so close as to at once suggest a common origin, and there can be no doubt that this conclusion is warranted by an examination of the section. They are in fact true epithelial cells; the demoralized and degenerated children of those cells which originally formed the inner and

outer "root sheaths" of the hair follicle. But they are growing in a direction contrary to that which their law of growth commands. Their physiological growth is always *toward* the surface of the body; in the present instance they are obstinately pushing their way downwards into the connective tissue.

In reference to the development of cylinders of epithelial cancer, Mr. Arnott remarks: "In fact, the new growth seems to consist simply of masses of surface epithelium; which, instead of appearing above and between the papillæ, dip down amongst the connective tissue, and there actively multiplying and thriving as much from the unwonted supply of fluid nourishment as from the absence of the desiccating process to which they are normally subjected as they are pushed on toward the surface of the body, form large tubular and branching collections, capable of more prolific development the further they are removed from the surface, and at the same time more freely subjected to the risk of single cells being taken up and hurried away in the lymph or blood streams to form similar collections elsewhere." ("Cancer: its Varieties, etc." By Henry Arnott, F.R.C.S., p. 69.) It would, perhaps, be difficult to get the essential facts concerning the pathology of epithelioma into fewer words.

As shown in the figure, each cylinder seems to possess a distinct membranous wall; and this wall seems to be a process pushed out from the hair follicle by the distending force of the growing cells contained within them. At a later stage these walls probably undergo degeneration, and their cellular contents are consequently liberated; at this period the danger of blood or lymph infection, and consequently of secondary centers of growth, would begin.

At *c* is shown one of the cylinders which happened to be cut transversely; possibly it is a section near the club-shaped extremity or bottom of a cylinder which proceeded from a neighboring hair follicle or sebaceous gland. The thickness of the wall of the cylinder is well shown. It is also seen to be crowded with large nucleated cells resembling epithelial cells. Although not in accordance with the general teachings

upon the subject, I am inclined to believe that the "pearly globules" or "bird's nest bodies" ("*globes épidermiques*" of French authors) are sometimes produced by the concentric development of successive layers of cells, and their imprisonment within the cylinder wall. Intense compression would ensue, the well known tendency of epidermic cells to dry up and become horny would naturally follow, and thus the pearly globule would result from merely mechanical causes.

The letters *d d* refer to the "small celled brood" of Woodward, the "small celled infiltration" of Arnott. The origin of these inter-cylindrical groups of small cells is one of the open questions of our present pathology. Whether they are exclusively the product of a rapid proliferation of the connective tissue — "the invading epithelial growth being preceded by a small celled infiltration, suggesting irritative hyperplasia of the connective tissue nuclei."—(Arnott); or whether they are exclusively the product of the migrating leucocytes and their progeny; or, lastly, whether they are partly contributed by both these sources, are questions which are not yet decided authoritatively. I am inclined to believe that the latter proposition will prove eventually to be the true one. But, however this may be, it is certain that the inter-cylindrical spaces of growing epitheliomata are always filled by a luxuriant growth of cells, considerably smaller than those which form the cylinders; and this small celled brood generally precedes the growth of the cylinders. These cell-groups are doubtless due to an "irritative hyperplasia" of something. In my own view at the present time, they are the evidence and outcome of a reversion to the amœboid type of growth, both of the wandering leucocytes and the nuclei of the connective tissue corpuscles.

I have dwelt upon the histology of this case at some length because I regard it as one of great interest pathologically. It seems to be a case of *induced* epithelioma, quite local in its character in its earlier stages. I think a brief review of its history will lead us to this conclusion: Fifty years previously the tissues involved were badly damaged and their nutrition seriously and permanently interfered with by a severe burn.

In consequence of this, progressive contraction of the cicatrix had taken place, and a still greater interruption of nutrition had resulted. During all these fifty years it has frequently become "fissured and sore, especially in winter time." In the winter of 1874 "it broke out again," and the usual treatment (probably owing to advancing age, and the consequent feebler nutritive capacity of the scar-tissue) failed to produce the usual beneficial effects. Then the patient commenced a series of wanderings from doctor to doctor, and the number of remedies applied almost equalled the possibilities of the Pharmacopœia. In August, 1875, he consulted me. The ulcer had then assumed the appearance of incipient cancroid, and I advised an operation, which disgusted him and he resumed his wanderings. In December following the barbarism of applying chloride of zinc and blood-root was committed, and prior to this electricity had been employed. In fact, the simple ulcer which formed upon the surface of a cicatrix fifty years old, upon the palmar surface of the thumb of a man seventy years old, was persistently teased and worried by the application of irritating remedies, aided somewhat perhaps by the well known disposition of the patient to examine the sore too often and renew the dressing too frequently, into degenerating from an innocent affair to an epithelial cancer. And this, I am persuaded, is a not very uncommon cause of the origin of the epitheliomata.

I. N. D.

Reported Nov. 6, 1876.

The editor of the "Transactions" desires to express his obligations to Dr. R. U. Piper for the beautiful camera drawing from which the foregoing illustration was made; and also to Mr. Bertram for the skill and fidelity with which he has reproduced Dr. Piper's drawing by the process of photographing on wood. It is proper also to remind the readers of the "Transactions" that such illustrations are somewhat costly, and that they are under obligations to the enterprising publishers, Messrs. W. B. Keen, Cooke & Co., who have kindly consented to incur the necessary expenditure.

II.

CEREBRA L EMBOLISM AND THROMBOSIS.

FOUR CASES, REPORTED BY PROF. HENRY M. LYMAN, M.D.

During the past summer I have been so fortunate as to see the *post mortem* appearances in four cases of obstructed cerebral circulation. Three of these cases were interesting because they serve to illustrate the cause of alarming symptoms and sudden death, where, under ordinary circumstances, recovery, or, at least, considerable duration of life, might have been expected. The fourth presented only what is liable to occur in any case of lingering death, with great depression of cardiac vigor and a fibrinous condition of the blood.

CASE I. N., a middle aged Irish laborer, was admitted to the County Hospital last May. He was suffering severe pain in the right thoracic region, and there was a small effusion into the right pleural cavity. The pain soon manifested itself in the right shoulder, causing great distress on motion of the joint. Subdued in this region, the pain declared itself over the heart, and a loud mitral murmur became audible. About a week after this the patient became suddenly hemiplegic — waking up in the night and finding himself unable to move his left side. He was still conscious and could articulate tolerably well when I saw him the next day, twelve hours after the accident. The diagnosis was, obstruction of the right middle cerebral artery by a vegetation detached from the mitral valve. The patient was utterly unable to move the left side, and gradually sunk into a state of speechlessness and insensibility. Death occurred on the third day.

At the autopsy about a pint of slightly turbid serum was found in the right thoracic cavity. The mitral valve was covered with recent exudation. At the bifurcation of the right middle cerebral artery was found a solid fibrinous mass, as large as a grain of wheat, completely obstructing the vessel and arresting the passage of the blood. It is worthy of remark that the left side of the brain is more frequently than the right side reached by such embolic visitors from the heart.

CASE II. M., aged eighteen, a domestic, of American

birth, entered the hospital July 12, 1876. She was well known in the house, having been previously treated there for epilepsy, a disease with which she had been afflicted from childhood. She had several paroxysms of convulsions during the fortnight which followed her admission, but in other respects she seemed to be quite well.

One morning, however, two weeks after coming into the hospital, she was attacked with violent vomiting and diarrhœa. She complained also of a sore throat and of a high fever. Next morning she was covered with the rash of scarlatina. The vomiting and diarrhœa did not cease. She complained of severe pain in the precordial region, and was evidently much prostrated. That evening she had a convulsion, and from that time she passed from one convulsion into another until she died, about two o'clock the next morning.

At the autopsy, twelve hours after death, the skin was still brilliantly injected by the eruption. There was also a vivid arborescent injection of the entire peritoneal and pleural surfaces. The interior of the pericardial sac presented a striking contrast by its normal appearance. The mucous surface of the stomach and intestines did not present any morbid appearances to the naked eye. The liver was healthy. The kidneys were intensely congested, but were not degenerated. The lungs and air passages, as high as the vocal chords, were models of healthy tissue. The mucous surface of the œsophagus from the stomach to the level of the glottis was pale and normal. From that level the entire lining of the pharnyx and posterior portion of the mouth was colored with a dark purple hue. There was little if any moisture in the serous cavities of the body.

On opening the cranium an intense hyperæmia was manifested. The superficial cerebral veins were enormously distended. This condition was the result of an occlusion of the superior longitudinal sinus by a firm, straw-colored clot, exactly like the white heart clots which are so frequently displayed upon the autopsy table. The left lateral sinus was filled with coagulated blood, which had not lost its color. A very small

black coagulum was found in the left ventricle. The blood in other parts of the body was fluid.

In this case the local arrest of circulation doubtless served to divert the principal volume of the blood current, through extraordinary channels, upon the ganglia at the base of the brain. Already modified in their structure by previous disease, this unnatural hyperæmia served to exalt their function to such a pathological degree that excessive vomiting, diarrhœa, resulting from vaso-motor disturbance, and, finally, convulsions were excited, and the patient speedily succumbed to the violence of the commotion thus aroused.

Case III. S., a vigorous, middle aged gentleman, was one day so unfortunate as swallow a fragment of chicken bone, which was arrested in its progress just within the *sphincter ani*. At that point it had excited considerable ulceration before it was discovered and removed. The ulcer did not heal well. The superficial fibres of the sphincter were incised by one physician, another did something else. The patient traveled from one doctor to another until it could no longer be denied that he was the victim of a cancer of the rectum. He finally came under the care of Prof. Edwin Powell, M.D., by whom he was attended till death put an end to his suffering. Through the kindness of Prof. Powell I was permitted to witness the autopsy, which was performed mainly for the purpose of ascertaining the cause of certain cerebral symptoms which were manifested during the few days which preceded dissolution.

The patient, who had previously exhibited no cerebral disorder, was attacked with excruciating pain in the head. After a variable period of anguish he would become insensible, would continue for a time in a state of stupor; from which he would gradually emerge, only to renew his experience of pain, succeeded again by unconsciousness. In this way the last week of his life was passed.

At the autopsy we discovered extensive scirrhus cancer of the walls of the rectum. Small nodules of cancerous deposit were appearing upon the omentum. The other viscera pre-

sented nothing worthy of extended remark. On opening the head the greater portion of the cerebral convolutions appeared unusually pale. The sulci were filled with serous fluid, especially upon the left side of the brain, where a vein which occupied the posterior branch of the sylvian fissure was filled with black coagulum as far as its junction with the lateral sinus. This seemed to account for the symptoms which appeared before death. Diverted in considerable part from its normal course, by the occlusion of so important a channel, the blood was poured with too voluminous a current upon certain portions of the brain, in which it produced a hyperæmia with sensations of pain until the unwonted pressure was sufficient to occasion insensibility. A period of diminished circulation would then succeed, and the diminution of pressure thus produced would permit the resumption of cerebral function and the return of consciousness. Renewed activity would excite a renewed afflux of blood with consequent renewal of pain, and so forth, until complete exhaustion closed the scene.

Case IV. Opening the cranium of an emaciated patient who died of pulmonary consumption, I found the superior longitudinal sinus occupied by a slender, straw-colored clot. There was no engorgement of the cerebral veins, nor had there been any cerebral symptoms during the last hours of life

Reported Nov. 20, 1876.

III.

HYDATIDIFORM DEGENERATION OF THE CHORION.

By CHAS. WARRINGTON EARLE, M.D.

During January, of the present year, I was consulted by one of my patients, who gave me the following facts in regard to her case:

She became pregnant about December 1, 1875, and five weeks after, a lady acquaintance attempted to produce an abortion by inserting a pointed ivory instrument into the cavity of the uterus. Only a slight discharge of blood followed this operation. Her breasts had continued to enlarge, and the morning sickness had been very severe ever since. No digital examin-

ation was permitted, and the lady departed with a few bismuth powders to allay the gastric irritability.

Early in February I visited my patient and found that a day or two since a watery sanguineous discharge had commenced, which at times was very copious and then disappeared for a few hours. A digital examination revealed the os soft and the uterus enlarged.

As the case progressed the watery discharges continued; the abdomen and mammæ enlarged, the uterus seeming to extend more laterally than upward. The patient's nutrition was exceedingly poor, and an anæmic condition speedily ensued. About March 1st, possibly the 4th, a mass described as large as half a hand, slightly rounded and covered with blood-vessels, having a little membranous string attached, was discharged from the vagina. I did not see this product, but give the description as it was given to me by the ladies who were present. The watery discharges, with occasionally a little blood, continued, and there was no diminution in the size of the abdomen. March 12th, the patient suffered more than usual, and at the suggestion of a friend took her bed and applied a hot hop poultice to the abdomen. A short time after pains commenced, and suddenly with a gush, nearly, if not quite, a quart of hydatid like bodies came from the vagina. The lady and friends were now greatly excited, and several physicians were summoned during the following hour, at which time I arrived. The pulse was 150, and considerable blood was being lost. She was ordered Squibb's fl. ex. ergot, and wine when necessary. During the night quite a number of bladder like bodies came away, but these with the hemorrhage gradually ceased, and with a tonic of iron and quinine she made a good recovery by the 20th of the month.

The above case, with the following notes from the literature on the subject, was presented to the Chicago Medical Society, at its annual meeting, April 3d:

I. Substances, generally substantial in texture, the exact nature of which is not always easy to determine, are frequently discharged from the uterus. When they take place independent of impregnation they are called *false moles.* The *true*

mole is always the result of conception. In the early days of medicine most fabulous reports were believed in regard to these productions, and judging from the reputed expressions of some so-called medical men and numerous of the laity, there is still a taint of these old ideas remaining in the minds of some.

II. Substances, cyst-like in their appearance, are occasionally discharged from the uterus. It has been supposed until recently that these bladder-like bodies were *true hydatids*, and due to the acephalocyst. Recent microscopical investigations, however, prove that they are entirely different, both in their general formation and in their histological arrangement. A true hydatid of the uterus is made up of closed sacs within other closed sacs, and must contain echinococci heads, etc., etc. True uterine hydatids are very rare. Rokitansky has seen one case, and Graily Hewitt, in Vol. xii, Obst. Trans., reports a second case.

III. The hydatidiform mole, the name now given to the vesicular bodies which most frequently escape from the uterus, are simply little bladders or cysts, not inclosing other cysts, but filled with a watery albuminoid material, and furnishing no evidence whatever of hydatid origin. These vesicles, under the influence of perverted nutrition or development, spring from the villi of the chorion, and may vary in size from a walnut to a millet seed. The cause of this chorionic degeneration is not well understood. Some authorities believe the change takes place previous to the death of the embryo from some form of malformation, while others urge that an accident to or death of the embryo, diverts the developing force from its proper channel, and the degeneration commences.

The pathological specimen was submitted to Dr. Norman Bridge, for microscopical examination, who informs me that no evidence of the echinococcus could be found.

I have not been able to find, in the literature at my command, any case reported where this vesicular degeneration has occurred a second time in the same patient; indeed, I am of the opinion that somewhere in my reading, although I can not now find the article, it is stated that it does not take place

the second time. However, it did take place a second time in my patient, although to a less extent than at first.

Aug. 17. Was called in haste to the same lady, whom I found suffering from great hemorrhage; she having lost a short time before I arrived more than half a vessel of blood. In this fluid I found a number of cystic bodies, some of them the size of a grape. Only a few were passed, compared with the former amount. A good recovery was made in ten days, and excellent health has been enjoyed since.

I should add that after the first accident a few applications were made to the uterine mucous membrane, such applicants as the tr. ferri chl. being used, and continued as long as any diseased condition could be perceived.

In regard to the second accident, I suppose pregnancy had again taken place, abortion following quickly from the cystic degeneration of a chorion not yet quite healthly enough to perform normal function.

Reported April 3, 1876.

IV.

TUBERCULOSIS IN THE LUNGS OF A CANARY BIRD.

By DR. I. N. DANFORTH.

A few days ago a lady consulted me in regard to her pet canary's health. The "patient" hung his harp on the willows quite a long time previously, appeared languid and drooping, sitting sometimes for an hour or more upon his perch without change of position; took but little food, and, in fact, according to the description given to me, "appeared to be sick all over."

Shortly after this the bird died, and I obtained permission to make a *post mortem* examination. The emaciation of the body was extreme, the plumage was scant and shabby, and all appearances indicated very marked mal-nutrition. Upon opening the body I found an extensive deposit in both lungs which strongly reminded me of ordinary tubercle. Upon microscopic examination of a specimen of this deposit I found that it was indeed tubercular; the usual shrivelled, pinched and degenerate cells appearing in great numbers. No other

evidences of disease were noticed. The bird therefore must have died of true tubercular consumption; and it is interesting to notice that the history and progress of the bird's illness was quite typical of this disease.

Although it is well known that tuberculosis is a not very uncommon disease among the lower animals, it is probable that it is much more common than we have supposed. This is especally true of tropical animals brought into our climate and kept in confinement. I well remember the case of a lion who died while some menagerie, to which he belonged, was being exhibited here. His remains were bequeathed to Rush Medical College, and a *post mortem* was made. The lungs were found to be loaded with tubercle in all stages of development and decline.

Caged monkeys are likewise notoriously liable to tuberculosis, and the same fact has been observed with respect to rabbits closely confined in filthy quarters.

The case detailed interests us only as it relates to the general subject of the efficient causes of tuberculosis. The canary bird was kept for the most part in a damp, dark basement, and was consequenly on a short allowance of fresh air and sunlight, both of which are indispensable to healthful bird-life. I have very good reasons for believing also that insufficient care and a want of proper food supply, as to quality and variety, were in part responsible for the degenerated type of cell-life which invaded the lungs of the little songster.

In a word, a canary bird is placed under conditions favorable to the development of tuberculosis, and a tuberculous deposit promptly takes place in the lungs. This seems to show that even birds enjoy no immunity from tuberculous disease when they are forced into situations which invite the genesis of tubercle. In view of the experimental results as to the inocculability of tuberculosis, it is possible that the liability of birds to this disease—if they are generally so liable—may yet come to have a very practical bearing in its relations to their consumption as food by the human family.

Reported Nov. 13, 1876.

Editorial.

The first completed volume of the JOURNAL AND EXAMINER is now in the hands of its readers, and they can judge for themselves how far the editorial corps has proved itself worthy of the trust conferred upon it by the Chicago Medical Press Association.

Judging from the tenor of many kind letters, and from a gratifying increase in the subscription list, the editors are disposed to believe that the changes made during the year have been approved by the profession. While they are modest enough to accept this compliment, they are not so blinded by a first success as not to appreciate the deficiencies in the character of the year's work.

Upon two of these deficiencies we desire to make a brief comment. It has, from the beginning, been our purpose to make the JOURNAL AND EXAMINER especially useful to the profession of the Northwest. With this view we have introduced the monthly *Summary of Progress of the Medical Sciences* in order to disseminate some knowledge of the observations, researches and doctrines of our colleagues abroad.

But on the other hand the JOURNAL AND EXAMINER should fairly represent the professional workers of the Northwest. Its pages should give, as in a mirror, a truthful representation of the labors of the profession in the district named, by incorporating full reports of the proceedings of its medical societies and hospital clinics. A synopsis of the papers read before the societies, and a brief record of the discussion which may follow the reading of the papers or the presentation of pathological specimens would, by the character of such papers and discussions, show the exact standing of the profession.

And so also the pages of our periodical ought to contain a record of hospital clinics, because the practice and teaching of the physicians and surgeons of the large hospitals may generally be accepted as representing the character of profes-

sional practice in a whole district or country. Besides, an accurate and well drawn report of typical cases would be useful and instructive to the readers of the JOURNAL AND EXAMINER.

In both these directions the editors are compelled to say that they have not been able to do justice to the profession. The reports of our medical societies, as furnished by their reporters, have been so deficient that when they finally ceased to appear, neither these pages nor their many readers were great losers.

It was a step in the right direction when the Chicago Medical Society appointed an editor for the publication of the history of cases and pathological specimens presented at its meetings. The second series of these "Pathological Transactions" will be found in this number. It reflects credit upon the editor, the several contributors and the medical society; and indicates that a little enthusiastic effort can render the material which accumulates in the dead records of the societies useful and interesting to the profession at large. If other societies would do likewise the pages of this journal would soon show a splendid record of the scientific zeal of the medical profession in this country.

Still more deplorable have been the reports from our hospitals. A medical journal published in a metropolitan city, like Chicago, provided with large hospitals, is expected to give its readers a fair account of hospital practice. But the editors have, in this respect, to depend on the efficient co-operation of the hospital physicians and surgeons. The latter are to select the cases worth reporting, and must either themselves report them or have the reports written by younger men in the profession. But certainly it should be a matter of interest to the former, one would think, to see that the cases and the comments upon them are correctly reported before they are sent to the editors. The latter cannot be held responsible for the correctness of what is published as the clinical lecture of Dr. X. if Dr. X. does not take pains in selecting an efficient clinical reporter, and in supervising the latter's work. Dr. X. must not be surprised to find his clinical lecture reported

in a fashion which he considers a disgrace to himself, if he returned for publication, and without making a single correction, a written report of his lectures which the editors sent him with an urgent request to correct the apparently erroneous statement of his remarks.

The editors are fully conscious of the fact that what clinical reports have been published during the past year very often were imperfect, and the only apology they can offer their readers is, that in the kindness of their hearts they have often appreciated the good will of the writers rather than their capacity as clinical reporters. But the editors are also compelled to say that from the largest hospital in the Northwest they have received neither encouragement nor co-operation; the attending staff of that institution having shown no disposition to furnish reports of their hospital practice. Unless they be, by some miracle, roused from this apparent lethargy, the mass of clinical material furnished by that charity will be buried within its walls; the records of cases will remain a dead letter; and the readers of the JOURNAL AND EXAMINER will not be the wiser for what is said and done within the precincts which are, to the most of them, otherwise inaccessible.

Book Reviews.

[NOTE.—All works reviewed in the pages of the CHICAGO MEDICAL JOURNAL AND EXAMINER may be found in the extensive stock of W. B. KEEN, COOKE & Co., whose Catalogue of Medical Books will be sent to any address upon request.]

GUY'S HOSPITAL REPORTS, edited by *H. G. House, M.S.*, and *Frederick Taylor, M.D.* Third series. Vol. XXXI. 8vo. pp. 469. London: J. & A. Churchill. 1876.

We have read this volume with great pleasure. It is one of the most valuable of the recent contributions to medical literature. The contents are particularly rich in original investigations.

The first article is entitled "Cases Illustrating the Diuretic

Action of the Resin of Copaiba," by Frederick Taylor, M.D. The resin of copaiba is the residue of the distillation of oleum copaibæ, is described as of a dark green color, brittle, resinous in consistence, and almost tasteless. In preparing it for use the resin is softened with one-fourth of its bulk of rectified spirits; three ounces of this mixture are rubbed with four ounces of compound tragacanth powder, and mixed with four pints of water. One ounce of this mixture contains 12 or 13 grains of the resin, and was given three times daily. This preparation was administered in more than sixty cases, of hepatic ascites, simple peritoneal effusion, cardiac dropsy, anasarca, ascites secondary to emphysema and bronchitis, pleuritic effusion and renal dropsy. In favorable cases the quantity of urine was quickly increased. For example, in case 5, the urine passed the day before the drug was first administered, measured 18 ounces, and on the following day, 76 ounces. In case 6, the urine was increased from 60 ounces to 122 ounces on the following day. The diuresis thus rapidly produced, subsided as rapidly when the drug was withdrawn.

There are thirteen cases recorded in which the drug was used in ascites from disease of the liver. Commenting on these cases, our author says: " the results of the first ten cases appear to contradict very decidedly the assertion of Niemeyer, that diuretics are as useless as they are irrational in the treatment of ascites." The group representing its use in cardiac dropsy, is interesting because of the comparisions instituted between it and digitalis, with apparent advantage in favor of copaiba. As an example, in case 17, during the first nine days with the use of digitalis, there was a daily average of 23 ounces urine, but on the addition of copaiba resin, it increased rapidly to 90, 100 and 125 ounces. In case 16 the urine increased to 110 and 120 ounces under the combined use of digitalis and resin copaiba, but on the withdrawal of the latter fell to 40, 20 and 16 ounces, and rose to 80 ounces when it was again employed.

In renal dropsy the drug had no appreciable diuretic effect in three cases of tubular nephritis, but seemed to have considerable influence in one case of lardaceous disease and in one

of granular disease. In none of the cases did positive harm follow its use.

The second article is entitled "Considerations on the Cures in Insanity," by George H. Savage, M.D., and is quite an exhaustive dissertation on prognosis, the result of ten years' experience in the Bethlem Royal Hospital, by a very careful and accurate observer. The limits of this review are not sufficient to enable us to give an outline that will do it justice. There is one important fact brought out in connection with treatment of the insane, that we think of considerable value, it is the good result that sometimes follows the transfer of the patient from one asylum to another. A personal experience with these unfortunates has given us several cases in which recovery quickly followed such transfer. Our author remarks, "that the prognosis is not absolutelly bad when patients have already been discharged uncured and incurable from an asylum. I have many times been annoyed to hear of patients who, after all our care and trouble, have not been benefitted, and yet have recovered on removal to rougher quarters and harder fare." At the Metropolitan Asylum, at Leavesden, only presumably incurable patients are sent, yet some are every year discharged cured.

"One is not only justified but encouraged to send to other asylums those cases that we have failed in curing at the end of a year." The records of our American Asylum for Incurables, at Ovid, N. Y., give the same results as those observed at the English institutions.

The next article is "On Fractures of the Thigh," by J. Cooper Forster, Esq. In it is considered, with great ability, and with an experience of thirty years' observation, in an excellent clinical field, the treatment most certain to prevent shortening. He first discusses the mechanism and results of treatment with the double inclined plane and the long straight splint, and then considers the splint devised by Dr. Smith, of Baltimore, as modified by Dr. Hodgen, of St. Louis, and regards this latter as the best appliance before the profession, fulfilling as it does, in a scientific manner, the indications of muscular relaxation, rest and extension. Our author has

treated, with this splint, 17 cases, with an average shortening of only one-third of an inch. In contrast with this he gives the record of 47 cases treated by various other plans, in which the shortening averaged three-quarters of an inch. He considers the Hodgen splint as the one most comfortable to the patient, admitting of the greatest freedom of body movement with least disturbance of fracture, and greatest degree of cleanliness. He enumerates, as its disadvantages, the thought and dexterity its application requires, the difficulty of obtaining the material for fitting it up, the liability to excoriation of the leg from the extension straps, and the care necessary to prevent eversion of the lower fragment with the whole of the foot.

A personal experience of the reviewer with the splint, in three cases of gunshot fracture of the femur, leads him to fully endorse all that is said in its favor.

The next article "On Meningeal Hæmorrhage," by James F. Goodhart, M.D., is an admirable resumé of 49 cases. He lays special stress on the fact that these hæmorrhages are probably often present without being suspected; that they occur from apparently trivial accidents, and that if care is not exercised, cases which might have perfectly recovered pass on into a state of permanent degeneration of the grey matter of the brain, and even into a state of chronic inflammation of the brain and its membranes, these leading ultimately to confirmed epilepsy, to insanity, and even to death.

The next paper is "On the Causes of Preventable Blindness," by C. Higgins, Esq. The object is to call attention to certain affections of the eyeball and its appendages which, if proper precaution be taken, may leave no bad results; but which, if neglected or improperly treated, will lead to more or less impairment of function, and admirably has he stated his observations.

He details his experience in granular ophthalmia, purulent ophthalmia and glaucoma, and makes valuable suggestions as to prevention and treatment. He justly condemns strong caustic applications to the conjunctiva, and gives, as the usual treatment for out patients, the following: "In the more

recent cases the palpebral conjunctiva is twice a week touched lightly all over with mitigated nitrate of silver stick (one part of nitrate of silver to three of nitrate of potash); after the application the conjunctiva is washed with salt and water. In the more chronic cases the green stone (lapis divinus) is used instead of the nitrate of silver. In most cases sulphate of copper drops (cupri sulph., gr. ij., aqua, ℥j), are ordered to be dropped into the eyes three times a day or oftener. If there is much intolerance of light, or symptoms of iritis exist, gr. ½ to j of sulphate of atropine is added to each ounce of the drops. If there be copious purulent discharge, alum lotion (gr. 10 to ℥j) is ordered in lieu of the drops. If extensive ulceration of the cornea exists, the eye is to be kept bandaged with lint soaked in belladonna or poppies. The granulations are neglected until the more severe symptoms have subsided."

The treatment he prescribes in ophthalmia neonatorum is the use of alum lotion (gr. ij to ℥j) every hour or half hour, according to amount of discharge from 8 A. M. to 8 P. M., and during the night when the child is awake. In cases where deep ulceration or perforation has taken place, he orders the eye to be bandaged with lint soaked in belladonna lotion, the bandage to be frequently removed in order to apply the alum lotion.

In mild cases of purulent ophthalmia he recommends the use of alum or other astringent lotions frequently applied; in severe cases a thorough application of solid nitrate of silver to the palpebral and ocular surface of the conjunctiva, followed by a washing with salt and water. The eye is then to be lightly covered with a piece of lint and kept constantly bathed with alum lotion (gr. x to ℥j), some simple ointment to be applied to lids and cheek; quinine, iron, a liberal diet with stimulant and opium at night are also prescribed.

The next cause of preventable blindness he treats of, is *undetected glaucoma.* He enumerates several cases in which the disease was mistaken for senile cataract, and appropriate treatment thereby delayed until too late for successful result. This should warn us against a hasty diagnosis of cataract

from unaided eye appearances, and cause every suspected case to be subjected to a careful ophthalmoscopic examination. The only successful treatment is operative, and this of no value unless early applied.

The contributions to dental pathology by S. James A. Salter, M.B., F.R.S., and "A Description of the Appearances of the Human Eye in Health and Disease, as seen by the Ophthalmoscope, ninth series, Retinitis Pigmentosa," by C. Bader, Esq., are both very entertaining papers.

The next article is on the "Use and Administration of Sedatives," by Paul Henry Stokoe, B.A., M.D., and is a truly valuable paper. In treating children in their first septenate, he rejects opium almost entirely for internal use. In regard to opium in second childhood, he considers it judicious to combine chloral and chloroform with it; opium being in excess when pain, chloral when restlessness, and chloroform when cramp predominates; and furthermore recommends the addition of m. x to xx of the tincture of cannabis Indica, when dealing with a heart enfeebled by advanced age or exhausting illness. In this connection we feel it our duty to give a word of warning in the use of chloral. We are aware that many practitioners regard it as harmless and freely prescribe it in doses that we consider dangerous. We have had a somewhat extensive experience in its use, especially in the insomnia of the insane, we have seen dangerous symptoms result from a 20 grain dose, and have been told of a death that resulted from one dose of 20 grains administered to a healthy woman to allay the pain of a tooth extraction. We have also known 40 grains result in poisoning, from which the patient was saved only by prompt interference. These are exceptional cases it is true, but such is our experience, and we would hesitate ever to administer to an adult, a dose exceeding 10 grains at one time.

The next article is entitled the "Fifth Report of the Guy's Hospital Lying-in Charity," collated by A. N. Galabin, M.D. It extends over a period of 12 years, and embraces 23,591 deliveries. The total number of children born is 23,811; of these 95.92 per cent. were born alive, the sexes were in the

proportion of 100 males to 88 females; 97.75 per cent. of the living children and 64.4 per cent. of still born children were delivered under a vertex presentation. There were 220 twin cases, or 1 in 107 of the whole number of women delivered. Only one cases of triplets occurred. The proportion of forceps cases was 1 in 197; out of the 121 forceps cases, five of the mothers died, one from hæmorrhage, one undelivered and three from septicæmia. The long curved forceps of Dr. Barnes were almost invariably used, even when the head was arrested at or near the outlet. These records seem to show that the application of the forceps is not necessary in as large number of cases as some of our own obstetricians would have us believe. Craniotomy was performed in 18 cases, or 1 in 1310. In fifteen the operation was resorted to for want of due relation between the head and passages, in one for compound presentation of head and foot, in one for carcinoma of the cervix uteri, and in one for the delivery of a hydrocephalic head — there were six deaths. There were seven cases of rupture of uterus and vagina — all died. As might have been expected from the enfeebled and badly nourished character of the patients, post partum hæmorrhage was of frequent occurrence, and caused death in eleven cases. Transfusion was tried in five cases, but in all was unsuccessful. A solution of perchloride of iron was injected into the uterus as a last resort in twelve cases, and in all instances stopped the bleeding — one-half of the cases died, but the injection does not appear to have itself contributed to the fatal issue. Forty-one cases of placenta prævia occurred. Two of the cases are remarkable in that the os was partially covered by the placenta and no hæmorrhage had taken place. Version was performed in 24 out of the 41 cases. Six of the mothers died, 10 of the children were delivered living and 31 were still born. The placenta was adhered and required the introduction of the hand for its removal in 75 cases, with five deaths, three from post partum hæmorrhage and two from puerperal peritonitis. Twenty-eight cases of eclampsia are recorded; this does not include, however, all the slight cases that recovered. There were seven deaths among mothers. In all cases in which urine

was examined albumen was found, except in one instance. In this internal hæmorrhage occurred after delivery, and epileptiform convulsions followed; the pulse being dicrotic and compressible, very unlike that generally found in eclampsia. It is moreover interesting to note that in all the cases that have occurred during the last 40 years, in which urine was examined, albumen was found in every case but two, one, the case above mentioned, and the other a case of arachnitis, as verified by autopsy.

Our author tells us that since 1868 no patient has been bled, but reliance has been placed on the administration of chloroform, often for many hours consecutively, even when the element of coma predominated over that of convulsion. Throwing out two fatal cases in which there was no opportunity for the proper administration of the remedy and one case that was an old epileptic, and the mortality under chloroform treatment is only 9 per cent. against 30 per cent. in which bleeding was used. There were 34 fatal cases out 36 cases of puerperal peritonitis. The usual treatment was quinine, opium and intra-uterine injections, with the occasional use of sulpho-carbolate of soda.

The mortality from all causes was 1 in 223; a result quite creditable when we consider that the patients are drawn from one of the worst neighborhoods in London, so far as extreme destitution and hygienic conditions are concerned. Rather less than half the deaths were due to septicæmia, and nearly a quarter to hæmorrhage.

The next article is entitled "The Treatment of Ulcers by the Local Application of a Weak Continuous Electric Current," by C. H. Golding Bird, B.A., M.D., and is a record of six cases treated successfully by this method.

The next article is entitled "A Case of Fracture of the Skull, Followed by a Collection of Cerebro-Spinal Fluid Beneath the Scalp." Recovery. By R. Clement Lucas, B.S. The tumor occupied the left temporal fossa, was aspirated and two ounces of cerebro-spinal fluid removed. The child has not spoken since accident. The case would probably have done better if the fluid had been left where nature put it.

The paper entitled "Remarks on some of the Paroxysmal Neuroses," by C. Hilton Fagge, M.D., is next in order. In it is discussed those functional diseases of the nervous centers that occur paroxysmally at periods more or less regular, "nerve storms," and includes migraine, vertigo, epilepsy, paroxysmal insanity, and tetany. He finds that they are essentially innate and hereditary, as are many of the neuroses; that in the same patient they are often transformed one into another in the course of time; that in the most of them there is, in each attack, a regular succession of phenomena, dependant, doubtless, upon a gradual extension of the morbid change from one part to another of the nervous centers, rather than modifications in the blood supply; that the attacks gradually culminate to a certain pitch of intensity and then subside; that a *slight* attack is followed at an unusually short period by another, and *vice versa;* and that the seizures are often traceable to causes which are very similar.

Space will not permit us to consider all the causes, but there are three that are well brought out in the paper that are frequently overlooked in practice: these are, derangement of the visual apparatus, defection of teeth, and the presence of tænia. The author offers nothing new on treatment.

The next paper is "On the Recognition of Sugar in Healthy Urine," by F. W. Pavy, M.D., F.R.S. It is a very valuable article, successfully answering in the affirmative the question: Does sugar exist in healthy urine? The writer describes a method of manipulation, in the test by fermentation, much superior to any that we are familiar with. Speaking of the pathological importance of the recognition of sugar as a constituent of healthy urine, he remarks that "it enables us to reconcile ourselves to the instances in which sugar is incidentally met with to a moderate extent in the urine without being associated with any clinical significance." He narrates three cases in which respectively 3.42, 2.55 and 4.44 grains of sugar to the ounce of urine were found, without any constitutional symptoms of diabetes, and which disappeared in a few days without any diatetic or other treatment for diabetes being employed.

This review, notwithstanding its length, but imperfectly represents the value of the report, and we, in conclusion, commend it to the profession as a book worth careful study.

D. R. B.

ANNUAL REPORT OF THE SURGEON GENERAL U. S. A. 1876.

In this brief report Dr. J. K. Barnes, Surgeon General U. S. A., informs us that the U. S. army showed an average mean strength of 21,681 white and 2,002 colored troops. Among the white soldiers 32,495 cases, or 1,499 per thousand, were taken on the sick report for diseases, and 5,066, or 233 per thousand, were reported for wounds and injuries of all kinds. The total number of deaths reported from all causes was 518, or 24 per thousand. These figures include 267 officers and men killed in the Indian war.

Among the colored troops the total number of cases of disease was 2,941, or 1,469 per thousand, and the number of wounds and other injuries was 521, or 260 per thousand. The number of deaths was 26, or 13 per thousand.

In all, 61 cases and 29 deaths of yellow fever occurred among the troops during the summer and fall of 1875.

During the past year 2,001 cases of wounds and injuries, and 71 cases of operations, have been added to the surgical registers, which now contain 267,700 abstracts of cases.

A TREATISE ON THE DISEASES OF THE NERVOUS SYSTEM. By *William A. Hammond, M.D., etc.* Sixth edition. 8vo., pp. 883. D. Appleton & Co., New York. 1876.

A book that has met with such a demand as to exhaust five large editions in four years, would seem to be beyond the reach of unfavorable criticism. Such is the book before us. We confess ourselves at a loss to account for such unprecedented success. Certainly we have found nothing in the volume itself that will explain it. The book contains, in our humble judgment, so much error intimately mixed with truth that it requires an adept to eliminate it, and would be in the hands of an inexperienced practitioner an unreliable guide.

The following sentence shows the laconic manner in which

our author, in the beginning, disposes of his critics: "The real value of ophthalmoscopy in diseases of the nervous system is in danger of being disregarded through the sciolism of pert pretenders, who read papers and memoirs without ever having seen the optic disk to recognize it" (page 18).

Persuing the subject of ophthalmoscopy in this relation, we find, under *active cerebral congestion*, of which our author had in his private practice in five years 622 cases, that the ophthalmoscopic examination is the most important aid to diagnosis; that it "shows the arteries of the retinæ to be increased in number, diameter and tortuosity." Under partial cerebral *anæmia* from embolism, he says the ophthalmoscope should always be used; that "in the older cases we will frequently find retinal congestion." Exactly how these two revelations of the ophthalmoscope are to be reconciled with its value, as estimated by our author, we are unable to say, and are disposed to question the importance of the instrument as an aid to diagnosis, even at the risk of being called a sciolist.

If space permitted, we might say much about the unwarranted positiveness in diagnosis, pathology and treatment that pervades every chapter.

The book contains one hundred and nine illustrations, a few of which are of real scientific value; many are sensational, and some burlesque.

In conclusion, we regret that the book is not in our judgment such as we should expect to emanate from one occupying such a distinguished position in the profession as our author holds. D. R. B.

CHEMISTRY: GENERAL, MEDICAL AND PHARMACEUTICAL. By *John Attfield, Ph.D.* Seventh edition. Philadelphia: Henry C. Lea.

The enviable reputation already gained by this standard work will certainly be much increased by the many improvements incorporated in the new edition that has just appeared. A number of valuable, well executed illustrations of chemical apparatus have been added, the recent changes in the nomenclature of the United States Pharmacopœia are duly noted, and

the whole work revised so as to be abreast with the many late discoveries in chemical science. At the same time the thoroughly practical character of the previous editions is still maintained — a matter that will be appreciated by busy practitioners, who, as a rule, seek from chemistries useful facts and not the discussion of unproven theories. To them the well-written chapters on toxicological testing and urinalysis will be of especial value; indeed, all that portion of the book devoted to analytical work is excellent, and by itself alone is worth the price paid for the volume.

We are surprised, however, in a work as generally accurate as Prof. Attfield's, to find so glaring an error as that which occurs on page 481, in connection with the important subject of testing for albumen in the urine. The statement is made that the urine, previous to boiling, must be acidulated, and for this purpose nitric acid is recommended in preference to acetic. Now, it has repeatedly been pointed out by the best of chemical authorities that urine, holding in solution a not over large quantity of albumen, will frequently fail to show any trace of that substance, if before boiling it has been acidified by nitric instead of acetic acid. We know of at least one instance in which ignorance of this fact led an eminent professor of clinical medicine to declare a patient free from albuminuria, when in reality that condition existed to a well marked extent.

All things considered, however, Attfield's Chemistry, in its present revised and improved form, is certainly one of our very best medical chemistries, and we take pleasure in recommending it to the profession and to students of medicine as a very valuable book of reference. W. S. H.

THE STUDENT'S GUIDE TO DENTAL ANATOMY AND SURGERY. By *Henry Sewill*, Member of the Royal College of Surgeons, etc. Philadelphia: Lindsay & Blakiston. 1876.

This little book of two hundred pages is a model in its way. Designed for students of dentistry, and condensed into the space of a manual, it is written by a scholar and an expert in his department, and would repay a perusal by any surgeon or student of surgery. It must be invaluable to those students

of dentistry who desire to be scientific men — as we are glad many of them at this day are.

SURGERY OF THE ARTERIES; BEING THE LETTSOMIAN LECTURES OF THE MEDICAL SOCIETY OF LONDON, 1875. By *C. F. Maunder*, Surgeon to the London Hospital, etc.

This contribution to surgery, of 202 pages, is composed of three lectures. The time allotted for their delivery was so short as to restrict the author, in a great measure, to his own personal experience. He has been obliged, therefore, to leave untouched many points of interest pertaining to his subject. The first lecture is devoted to aneurisms; the second to wounds, hæmorrhage and the antiseptic ligature; the third to the ligation of a main artery to arrest acute traumatic inflammation. In his first lecture we find the details of cases of aortic, carotid, axillary, inguinal and popliteal aneurisms of these arteries, with their anatomical relations and the operations of ligation called for when thus affected.

The result of Robert Holmes' inquiries concerning the compression treatment will lead us, says Mr. Maunder, to be more discriminating in the selection of the means of cure to be tried first, as well as the time during which compression may be continued, it having been shown by the former that the mortality from ligature, after compression has failed, is ten per cent. greater than where the Hunterian operation has been performed at once. And after a still more extended observation of popliteal aneurism, the author repeats what he published in 1869, viz.: "The mode of treatment I advocated for the cure of popliteal aneurism and all other suitable cases, is moderate compression, alternating with relaxation, say for a fortnight, with a view, partly, if thought desirable, of promoting a more free collateral circulation in the limb; and at the expiration of this time *continuous* compression, either digital or instrumental (completely obstructing the artery), maintained under chloroform or opium, if necessary, for a period varying from six to twelve hours, or even longer, and assisted by a tourniquet on the distal side of the sac, if the first attempt did not succeed. Should a few sittings fail to

effect good progress in the cure of the aneurism, the ligature must be resorted to." This lecture closes with the following conclusions:

1. "That no aneurism is to be regarded as necessarily incurable."

2. "That some cases of internal aneurism are apparently cured by absolute and prolonged rest, restricted diet, and other medical treatment."

3. "That when possible, compression, either proximal or distal, is to be employed in addition."

4. "That in all aneurisms in which treatment by ligature is known to be a fatal operation, the above rules are to be first applied."

5. "That the treatment of progressive aneurism at the root of the neck, by the distal operation, is justifiable after medical treatment has failed."

6. "That in rare instances only may an aneurism be treated by ligature before compression has been tried and has failed."

7. "That digital is to be preferred to instrumental compression."

8. "That anæsthetics and morphia are valuable aids to compression."

9. "That chloroform will probably prove to be a more effectual agent than morphia in all cases, but the more hazardous."

10. "That the value of morphia should be more thoroughly tested."

In his lecture on wounds, etc., Mr. Maunder gives due importance to the flowing of venous blood from the distal side of a wound in an artery, as an indication of the means to be employed for the arrest of secondary hæmorrhage. Experience shows that repair can be more certainly expected to occur on the proximal than on the distal side of the ligature of an artery, and to know whence the blood comes is of the utmost value to the surgeon. Should it be arterial and proximal, little else than the application of a ligature higher up the trunk will suffice to arrest the bleeding occasionally.

The prognosis will be much more favorable if the blood be

of a dark color, when rest and the local application of cold and pressure will be effectual. One case is cited to prove that venous blood sometimes flows from the distal side of the wound, and one to illustrate the value of the color of the blood as an indication of the method to be employed. From the cases of hæmorrhage cited he draws various conclusions, from which we select the following:

VI. "That blood flowing from the distal side of a wound in an artery or ligature upon it, will in the lower extremity be often, in the upper extremity occasionally, venous in color."

X. "That both the axillary and the femoral arteries may be wounded, and a pulse be felt at the extremity of the limb."

XII. "That direct compression upon the bleeding point will often succeed *after* the main artery has been tied, though it failed *before;* and this fact is a justification for tying a main vessel."

Part of this lecture (second) is devoted to the use of the antiseptic ligature upon arteries in their continuity. Nineteen arteries are reported as tied antiseptically—four with the antiseptic silk ligature (silk soaked in carbolic acid solution), and fifteen with antiseptic cat-gut. In eleven of the latter, and in all of the former, the behavior of the ligature was satisfactory. The four remaining ligations with the cat-gut furnish evidence adverse to this variety of ligature. Mr. E. Watson, for popliteal aneurism, applied an antiseptic cat-gut ligature in Hunter's canal, but without arresting pulsation beyond a few seconds. Five days later a similar operation was performed upon the ext. iliac artery. A month later the patient died, after amputation. The latter vessel, when slit up, had its lining smooth and unbroken, and there was no evidence of diminution of the caliber of the vessel. No trace of the cat-gut was discovered. The opinion entertained was that the ligature did not confine the vessel for more than a few hours —sufficiently long, however, to produce a partial coagulation of blood in the sac, since the pulsation never returned.

At the site of the ligature upon the artery in Hunter's canal the coats of the vessel were deeply reddened, and it was filled with an adherent clot; yet its caliber was not diminished.

There was no trace of the cat-gut ligature. Mr. Spence used the cat-gut ligature on the common carotid. The next day the patient suddenly became comatose and paralyzed on the left side. Upon examination this artery was not in the slightest degree constricted at the point of deligation. The ligature was found with difficulty, and so gelatinous and pulpy that a portion of it, when placed between two slips of glass, spread out like a fluid. An embolic clot plugged the middle cerebral artery. The internal coats were cut through; but when the ligature softened, the force of the circulation distended the vessel, and forced the recent clot onward into a vessel of the brain.

Although Mr. Spence uses the cat-gut to tie arteries in amputation, removal of tumors, etc., he would not again use it to tie a large continuous trunk for aneurism. He now, for large arteries in amputation, uses cat-gut for the upper ligature, close to the soft parts, and dentist's silk for the lower, near the open mouth of the vessel. We fail to see any advantage in this double ligation of a vessel, especially when one of these ligatures is silk.

In the fourth case (Mr. Holden's) the patient died of hæmorrhage on the eighth day subsequent to ligation of the femoral in Scarpa's triangle, antiseptically with cat-gut. Not a trace of the ligature could be found. The hæmorrhage had taken place through a jagged perforation at the site of the ligature. The inner and middle coats were fairly divided, yet there was no clot, the vessel being pervious throughout. The cat-gut loses its constricting power, not by slipping, but by softening. With such evidence we must endorse the author's only conclusion, "that the fate or behavior of a given antiseptic cat-gut ligature, applied to the continuity of an artery, cannot be foretold."

The concluding lecture is devoted to "the ligation of a main artery to arrest acute traumatic inflammation." This operation was suggested by the author as a novelty in 1867; but he subsequently learned, and duly acknowledged the fact, that the operation originated in our own country. We have only space for the author's conclusions:

1. "That ligature of the superficial femoral artery has arrested acute inflammation consequent on wound of the knee-joint."

2. "That ligature of a main artery will generally diminish profuse suppuration, and prevent death by exhaustion."

3. "That while it arrests profuse suppuration, it will, by allowing the patient to gain strength, afford an opportunity for amputation at a future time."

4. "That gangrene and secondary hæmorrhage, as the result of ligature, should not be anticipated in the healthy subject."

5. "That a dread of these has arisen from our knowledge of the consequences of the ligature in instances of known diseased vessels."

6. "That a slough on the heel, caused by the pressure of a splint, was quickly detached, and the wound soon closed, although the superficial femoral had been tied a few days previously."

7. "That the arterial tension of the rest of the body will be increased beneficially by the ligature." J. E. O.

BOOKS AND PAMPHLETS RECEIVED.

A Treatise on Hernia; with a new process for its Radical Cure, etc., etc. By Greensville Dowell, M.D., etc. 1876.

Yellow Fever and Malarial Diseases, embracing a History of the Epidemics of Yellow Fever in Texas, etc., etc. By Greensville Dowell, M.D., etc.

Modern Therapeutics; A Compendium of Recent Formulæ, Approved Treatment and Specific Methods in Medicine and Surgery. By Geo. H. Napheys, A.M., MD., etc. New edition. 1877.

Contributions to Reparative Surgery. By Gurdon Buck, M.D., etc.

On Coughs, Consumption, and Diet in Disease. By Horace Dobell, M.D., etc. Edited by D. G. Brinton, M.D. 1877.

Clinical Studies illustrated by Cases observed in Hospital and

Private Practice. By Sir John Rose Cormack, K.B., etc. Two volumes. 1876.

Liver Complaint, Nervous Dyspepsia and Headache, etc. By M. L. Holbrook, M.D., etc. 1876.

Lectures on the Physical Diagnosis of Diseases of the Heart. By Arthur Ernest Sansom, M.D., etc. 1876.

Ophthalmic and Otic Memoranda. By D. B. St. J. Roosa, M.D., etc., and E. F. Ely, M.D., etc. 1876.

Walsh's Physicians' Combined Call-Book and Tablet. Second edition.

A Report on the Death-rate of Each Sex in Michigan, etc. By H. B. Baker, M.D., etc.

Prescription and Clinic Record, with Blanks for Prescriptions. Prepared by E. Seguin, M.D.

Annual Report of the Surgeon General U. S. A. 1876.

International Uniformity in the Practice and Records of Physic. By E. Seguin, M.D.

Transactions of the Colorado State Medical Society. Sixth Annual Convention. 1876.

Medical News and Items.

The *Annual Meeting* of the Stockholders of the *Chicago Medical Press Association*, was held Dec. 5, 1876, at the Grand Pacific Hotel. Drs. W. H. Byford, T. D. Fitch, and J. E. Owens were elected Directors for the ensuing three years, to fill the vacancies, by limitation, of Directorships held by Drs. Byford, Hamill and Bevan. Reports from the President, Treasurer, Secretary, Librarian and Editor, were submitted. The affairs of the Association are in as good condition as can be reasonably expected at the present time. The library contains nearly three thousand books, pamphlets, and journals. The prospects for greater increase in accumulation of medical literature are flattering. The Directors hope soon to have a complete set of the New Sydenham Society's publications, numbering about eighty volumes of very rare books, at a small

outlay of money. The number of medical journals regularly received is now one hundred and seven. The list of foreign journals is continually increasing. The latest publications in the line of medical books and phamphlets are all received, and thus the library, the great objective point of the Association, is steadily increasing in worth.

The most reliable feature of this collection of medical literature is an immense Index Rerum (consisting of a large volume for nearly every letter of the alphabet), which is being written up by the Librarian, Dr. Bridge, and a corps of able assistants, selected from among the rising young physicians of Chicago. Every original communication in the journals received is indexed, and, when one considers that at least five hundred such entries are made every month in the Index, it can readily be seen what an invaluable work is steadily being prepared for the present and future generations of medical writers and students in Chicago.

Arrangements are now in contemplation, which if executed, will place the library in well lighted and warmed rooms, in charge of an Assistant Librarian, day and evening.

The *Tri-State Medical Society* of Illinois, Indiana and Kentucky, held its second annual meeting at Vincennes, Ind., on November 21, 22 and 23, 1876. The meetings were well attended. The following papers were read and discussed and will be incorporated in the printed transactions of the Society: On the use of Ergot, by Dr. W. H. Smith, of Newman, Ill.; The Solution and Absorption of Medicines, by Dr. J. W. Campton, of Evansville, Ind.; Report on Obstetrics, by Dr. Ireland, of Louisville, Ky.; On Treatment of Diseases of the Larynx and Vocal Cords, by Dr. B. Tauber, of Cincinnati, O.; On Nervous Diseases of the Eye, by Dr. Dickinson, of St. Louis, Mo.; Treatment of Catarrhal Affections of the Nose and Ear, by Dr. Thos. Reimbolt, of St. Louis, Mo.; Traumatic Tetanus, by Dr. Ezra Read, of Terre Haute, Ind.; The Second Decade of Life, by Dr. W. H. Byford, of Chicago; Medical Education of Europe and America, by Dr. J. O. Stittson, of Bedford,

Ind.; The Pneumonia of the Wabash Valley, by Dr. J. B. Armstrong, of Terre Haute, Ind.; Conjunctival Diseases, by Dr. J. P. Worrell, of Terre Haute; Puerperal Peritonitis, by Dr. G. W. Burton, of Mitchel, Ind.

The committee on nominations made the following report of officers for the ensuing year :

For President, Dr. W. H. Byford, Chicago, Ill.; 1st Vice President, Dr. John L. Dismukes, Mayfield, Ky.; 2d Vice President, Dr. G. G. Barton, Washington, Ia.; 3d Vice President, Dr. H. H. Deming, Pana, Ill.; Recording Secretary, Dr. G. W. Burton, Mitchel, Ind.; Corresponding Secretary, Dr. F. W. Beard, Vincennes, Ind.; Treasurer, Dr. H. Patten, Vincennes, Ind.; and the Society then adjourned to meet in the city of Evansville, Ind., on the third Tuesday in Oct., 1877.

The new *Cook County Hospital* has been occupied now several months. Its furnishing and appointments are nearly perfection ; the beautiful wards with new furniture — and such furniture — and bright bed-spreads, and clean floors, are a sight really worth beholding ; it reminds us of a dress parade with a full regiment, new clothes and white gloves. Of course the time has been too short to get everything running smoothly, but we are sorry to hear so soon complaints regarding the management. There are, we are told, six engineers in the establishment, and yet in the surgical wards in one day, the temperature is allowed to fall from 98° to 38° F., because these poor engineers must sleep. The charges of mismanagement made by patients through the daily prints of late, we forbear discussion of in this place — doubtless something may be said on both sides. The amphitheatre is expected to be ready for occupancy by the time this journal is delivered to its readers.

The following letter to the Physicians of the State of Maine, is self explanatory :

PORTLAND, ME., 15th of November, 1876.

DEAR SIR : At its August meeting, the attention of the

CUMBERLAND COUNTY MEDICAL SOCIETY was called to an alleged "Opium Antidote," which a member had found to contain morphine, and the undersigned were appointed a committee to obtain a quantitative analysis of the preparation. While this investigation was proceeding, another so-called "Opium Antidote" was brought to the notice of the committee, and was subjected to a similar examination.

The first specimen, manufactured by Mrs. J. A. Drollinger, of La Porte, Indiana, was analyzed by Walz and Stillwell, Chemists, New York City, who found it to consist of glycerine colored with aniline red and containing in solution 1.383 per cent. by weight of the sulphate of morphia — about seven grains to the ounce.

The second was the preparation of "Dr. S. B. Collins, the great Narcologist of the Age," of La Porte, Indiana. The analysis of this was made by Dr. Henry Carmichael, Professor of Chemistry in Bowdoin College and Assayer of the State of Maine, and differed from the preceding only in the amount of the sulphate of morphia shown to be present, namely, 3.2 per cent. A teaspoonful (a dose frequently prescribed by the proprietor) would contain almost two grains of the morphia — nearly twelve times the ordinary medicinal dose.

The Society instructed the Committee to publish the result of the investigations, in order that the large number of opium-eaters in this country who are earnestly striving to overcome their health-destroying habit, may be seasonably warned against these widely advertised nostrums, which, while promising a safe and sure cure, only serve to increase the appetite for opium until it finally becomes unconquerable.

This circular is sent to every physician and editor in the State of Maine, and to many other persons of prominence and influence, who will be able to give wide publicity to these facts and thus help diminish the prevalence of the opium habit, which is yearly destroying great numbers of our people. Opium eating is usually practised without the knowledge of friends, and the attempts at cure are often equally secret; therefore the information which has been acquired concerning these dangerous preparations must be extensively disseminated

in order to certainly reach those for whose benefit only it was sought. Will you assist in the work by making known these facts in your neighborhood ?

FREDERIC HENRY GERRISH, M.D.,
GEORGE F. FRENCH, M.D.,
THOMAS A. FOSTER, M.D.,
} *Committee.*

THE MICHIGAN STATE BOARD OF HEALTH.—This must be a thrifty organization. We have received an abstract of their October meeting, and notice that Dr. Kedzie presented a paper on the "Water Supply of Michigan," wherein he treated of the geological formation of the State as affecting the water supply, the mechanical and chemical effect of different kinds of soil on the water filtered through them, of the impurities in water supply, of grave yards and their sources of impurities, and the methods of improving the quality of water now used; that Dr. Hazelwood read a paper on "Water," based largely on replies of correspondents to a circular of the Board; that Dr. Baker read a paper on the "Causes of Chorea;" that Dr. B. also presented material for a paper on the "Death Rate as Influenced by Age, Climate, etc.," and that Dr. Hitchcock read a paper on "Criminal Abortion," showing that the existing laws of Michigan are based on the views of past ages, and are not in conformity with the present knowledge of physiology.

DR. BRUNET has recently published an interesting work on Polynesia, in which it is stated that version, by external manipulation, has been practiced by the midwives of that country from time immemorial. The vaginal touch is interdicted. The operation is performed at the onset of labor and before the rupture of the pouch of water, and is successfully accomplished. On two occasions when the doctor had convinced himself of the position by auscultation and palpation, and there was presentation of the right shoulder, the dorsum being anterior, the maneuvers of the midwives were successful

Summary of Progress in the Medical Sciences.

I. Anatomy.

1. *A Living Specimen of Human Pygomelia — or a Woman with Three Legs.* [Di un caso vivente di Pygomelia umana osservato in Roma.] Angelo Incoronato. (*Extract from the proceedings of the Royal Medico-Chirurgical Academy of Naples*, 1876.)

Mad. Blanche, when examined by the author, was twenty-six years old. She stated that her mother had had children both older and younger than herself, all of whom were normal in organization, and enjoyed perfect health. As in most of such cases, the pregnancy preceding the birth of Blanche had presented no anomaly, and the labor was not unusually painful or tedious.

In person, the subject of this sketch was found to be slightly below the average stature of females; her countenance had a happy and agreeable expression, which did not denote physical suffering; her head was rather large, the face presenting a slight reentrant angle between the forehead and the chin. The tint of the skin was that of the delicate "pink and white" complexion; the hair abundant; the lips full, red and expressive; the neck well turned and white; the breasts of moderate size and regular conformation, provided also with nipples and areolæ which resembled those of a girl fifteen years old. But the pelvis was disproportionately broad, the distance between the two anterior superior iliac spinous processes being increased — the right on a lower level than that on the left, due to pelvic obliquity. In consequence, the abdominal integument was stretched like a tense drum-head, and the abdomen, instead of projecting, remained flattened and depressed. A single umbilical cicatrix appeared in the median line, the pubis being also single, though broad and of unusual extent. The genital organs were double — each that of the female — disposed, one set on each side of the axis of the body. The left vulvar aperture was the larger, and permitted the introduction of the index finger; that on the right would scarcely admit the little finger; both were surmounted by a growth of hair, more abundant on the left side. In each vulva appeared a clitoris and corresponding meatus urinarius with a circular hymen — the latter forbidding further exploration with the finger; and the author was not permitted to use the sound or any other instrument in his examination. The urine was simultaneously voided from the two urinary apertures; and it was further stated that the menstrual blood was discharged from the two vulvæ simultaneously, and from each in about the same quantity.

Behind the left genital fissure, and at a normal distance, was found the sole anal aperture. Behind the right vulva there was no opening of any sort; but at a distance of about five centimeters, in a line passing upward to the dorsum of the ilium, was a cylindroid cutaneous appendix, about

two centimeters long, insensible to the touch, impervious, always flaccid, and never rigid or turgid. In a careful palpation of this appendix, the fingers detected the origin of two filaments or small cords, having the feel of spermatic cords enlarged by circocele, which, even upon rude handling, did not give rise to a painful or disagreeable sensation. On the promontory of the pubis, but much removed to the right side, was a third breast — abdominal or better inguinal in site — provided with nipple and areola quite insensible to the touch, becoming turgid on gentle friction, but without producing such reflex sensations as those effected by irritation of the thoracic mammary glands. To complete the history of the examination of the trunk, it is only necessary to add that the spine was normal from the cervical to the lumbar vertebræ, but the sacro-coccygeal region was much larger than usual, and terminated below in two diverging and completely ossified points. At the prolongation of the right coccygeal apex, a large pyriform tumor was situated, its greater diameter in continuity with the vertebral axis. This tumor was insensible to any external impression, and possessed the elasticity of a lipoma.

Two limbs supported the trunk, while a third, which was situated between the former, did not aid either in the retention of position or progression; it was affected with partial anchylosis of the knee-joint, and could not be placed upon the ground. This angular semi-anchylosis only permitted a *diminution* of the angle of 90° at the knee, without allowing its increase — hence the heel could touch the nates but not the floor. It did not appear to have a true articulation with the trunk, but rather to be implanted upon it like a tumor; nor could it be extended or moved volun tarily, as it was necessary to use the hand in bringing it either backward or forward. In its superior (or thigh) segment, it was quite large, and through its soft parts the fingers could detect a well developed bone, corresponding neither to that of an athletic man nor of a young girl. The integument covering the condyles of the knee was not provided with sufficient fat to give it a rounded form; it was therefore nodose in contour, and the leg also was thin and lean, as if deprived of its soft parts. The skin scarcely sufficed to cover the bone, which was quite large — not double — but the representative of an enormous misshapen tibia. The attached foot, which was affected with varus, was flexed upon the leg, and held in position by a strong anchylosis; it was emaciated, and terminated in five clubbed and twisted toes, the great toe pointing to the left heel; therefore the foot was regarded as belonging to a right leg. Its temperature was decidedly lower than that of the other limbs, and even lower than that of the tumor and cutaneous appendix described above.

The other two limbs which sustained the body were somewhat irregular and differed, each from the other. The right was much the more shapely; its muscular masses were clothed with adipose tissue and normal integument, and its rounded form differed from that of the rest of the body, especially in its upper portion. The foot terminated in five toes, the great toe pointing inward, and exhibiting no deformity. Yet the great trochanter of the femur was excessively developed, and the articular head of the bone,

instead of being enclosed in an acetabulum, seemed to rest in a pseudo-articular cavity, constituted by the external iliac fossa. The left limb was much smaller and shorter than that just described; and this fact, in connection with the abnormal right coxo-femoral articulation, seemed to the author to explain the obliquity of the pelvis, which brought the anterior superior spines of the ilium into different planes. The leg was excessively small, disproportioned to the size of the thigh, which had a more regular conformation. The foot of this limb also was varus, as that of the median extremity, and turned inward to such an extent that the point of the foot was directed posteriorly. When touching the ground it rested exactly upon its internal border, this position having produced a dense callosity over the cuboid bone by the consequent pressure in that region. The foot terminated in five distorted and anchylosed toes, the great toe pointing inward. This limb differed also from the others in the extent to which it was capable of being removed from and approximated to the others — a circumstance readily seen when the subject walked with feet exposed.

The author critically analyzes the phenomena described above, and finds that Mad. Blanche belongs to the family of monsters called *polimelici*, of the genus *pygomeles* or *epipygus;* that is, there existed two primitive beings, which became united by the sacrum and coccyx — one attaining its development through the phases of evolution, the other arrested in development, but still exhibiting duplicity of the sexual organs, a supernumerary limb and other anomalies of the body — a species of monstrosity rare in mammals, especially in man, though frequently encountered in birds.

After sketching the probable course of development from the germinative areæ, the author proceeds to show that there was a union of two pelves; four ilia and two pubic and sacral bones; complete or partial resorption of the two internal ilia; solidification of the two sacral and coccygeal parts; and hence no articulating surface for the third limb, whose muscles became consequently the subject of fatty degeneration and inertia. The median and left limbs thus corresponded to an individual formed on the left of the axis of fusion; the right to an imperfectly developed individual on that side of the axis. The feet of the two first named were both affected with varus; the last was the most normal in size and shape. On the left also was the sole anal aperture and the best formed genitalia. On the right, it is true, the genitalia were not wanting, but the third breast, the cutaneous appendix and the pyriform tumor, all showed the irregular distribution and development of a primitive plastic material.

In all probability the pyriform tumor was the nucleus or rudiment of a left leg of the imperfectly developed individual on the right side. The cutaneous appendix could only be explained as an instance of exuberant plastic material, viciously disposed and directed. As to the internal genitals, the simultaneity of the emission of urine and menstrual blood might be explained by supposing single, double or bicorned uterus, as well as single or double bladder, for the unicity of the spinal cord and nervous center presiding over these functions, would, in any event, supply the explanation of this peculiarity.

II. Practical Medicine.

1. *Disorders occurring to a Laborer in a Manufactory of Aniline.* Fredet. (*L' Union Médicale*, No. 119.)

A man, thirty-seven years old, was employed in a laboratory where he inhaled the vapors of nitro-benzine and aniline. Before engaging in this work he had enjoyed perfect health. In the course of nineteen months he suffered from vertigo, malaise and vomiting, for which a purgative was ordered—the routine treatment among artizans of this manufactory, as soon as the sclerotic assumes a yellow hue and the gums become blue. The hours of labor were from 6 A. M. to 6 P. M., with necessary intervals for meals.

Upon admission to hospital he was found to be pale, his tissues puffy, the sclerotic of each eye subicteroid in color, gums blue without ulceration, numerous purpuric blotches on the legs, and pustules of ecthyma upon the internal faces and upper portions of the thighs. There was also œdema and a furuncular eruption over the malleoli, eczema, hemeralopia, general feebleness and difficulty in progression. A bruit was audible over the large vessels of the neck, simultaneous with the first cardiac sound. Pulse feeble and slow; no albumen in the urine; saburral condition of the primæ viæ; frequent stools and thirst.

These phenomena are due to the action of more than one poison — nitro-benzine, aniline and arsenic. At first there was vertigo, malaise, etc., due to the vapor of nitro-benzine; then followed the gastric disturbance and nervous depression, due to the aniline; finally, the furuncular and pustular eruption, with the eczematous affection, arose in consequence of subjection to the arsenical influence.

2. *Chylous Urine.* Robin. (*Le Progrès Méd.*, November 25, 1876.)

Robin exhibited to the Anatomical Society the chylous urine voided by a lady, each morning only, for three years. Decubitus consequently seemed to have some influence upon its production. The microscope showed cellular *débris*, delicate granules having amœboid movements, but no drops of fat. The urine contained no albumen, no sugar, and but one-third of the normal proportion of urea.

In the discussion of the specimen which followed, it was asked whether hæmaturia had previously existed. Crevaux having shown that in warm countries chyluria occasionally alternated with hæmaturia, Renant remarked that in chylous urine there was in general a distinct diapedesis of red and white blood globules, but in an abnormal proportion. Parasites were also occasionally discovered. The physicians practicing in warm latitudes have noticed, besides, varices of the lymphatics of the groin and scrotum, and even elephantiasis; and these lymphatic alterations have been ascribed to a parasite of the genus *filaria*.

Robin remarked that the saline constituents of this specimen of urine seemed closely analogous to those of chyle.

3. *Regeneration of Nerves after Neurotomy.* MITCHELL AND BERTOLET. (*Amer. Jr. M. Sc.*, April, 1876.)

From an injury in the median territory of the right palm of a Miss T., there occurred intense neuralgia, which no treatment improved. In November, 1871, Dr. Sapolini "cut down on the musculo-spiral nerve" "and removed one inch of it. This operation eased the neuralgia, which, however, came back in eight days suddenly." Atrophy of the extensor group of the forearm, with loss of power to extend the wrist, and in the common extensor of the fingers, resulted. The loss of sensation in the hand was small. In six months the wasted muscle began to enlarge again and the power, to return. In February, 1873, she could partially extend the hand, and "there was normal touch in all the radial region in the hand." In March, 1873, Dr. Mitchell had Dr. Brinton (J. H.) cut down and remove three-fourths of an inch of the median nerve in the forearm of this patient, in the hope of stopping her suffering. "The lower end of the cut nerve was doubled upon itself, and secured by a thread, to prevent reunion," and "the interval betwixt the nerve ends became by measure two and a half inches." In January, 1874, pain began in the line of the incision over the musculo-spiral nerve, and soon excessive pain in the radial region of the back of the hand. Swelling pain and redness occurred, and an abscess was looked for, but it did not occur. To relieve the constant torture of the patient, and fully believing the cut nerve had reunited, Dr. M. had Dr. B. cut down through the old incision and again remove a portion of the nerve. The nerve was found to have become re-united, two small swellings indicating the site of the two ends of the cut nerve. The operation was soon followed by perfect relief, which a year later had continued. Dr. M. thinks this case is the first one recorded "in which a nerve once cut has after repair been cut a second time, so as to remove the restored portion." Here nerve repair must have occurred within six months after the operation, as shown by the restoration of the wasted muscles. "Before we cut the median, and since, I frequently faradized the musculo-spiral nerve above the section, and threw the extensors into play." During the second operation, and when the nerve was laid bare, he repeated the test by putting the conductors on the exposed nerve itself.

Dr. M. thinks this case further proves the theory which he holds to, that if a single nerve be left uncut in a member, some sensitiveness will remain over the whole of the part, which will gradually improve. He believes this gradual return of power to occur through the coarse and fine anastomosis of the nerve fibers. This power "comes slowly, and we learn by degrees to use the new channels." In the case under consideration this gradual increase in sensitiveness was a marked peculiarity, while the paralysis in many muscles of the hand was complete and permanent after the two operations of Dr. B.

Two cases are quoted from Dr. Hodge where cicatrices of former nerve sections were cut down upon, and the nerves found re-united. In each instance, too, there was the enlargement at the site of the cut end of the

nerve. In one of these cases an inch, and in the other two inches, of nerve was excised.

In Dr. M.'s case "microscopical examination showed the central enlargement to consist almost entirely of double contoured nerve fibers, which interlace and cross one another in every possible direction." There was a moderately increased quantity of connective tissue. The distal enlargement presented the same histological features. "Horizontal and vertical sections of the intermediate portions of the nerve, between the neuromatous swellings, are indistinguishable from those obtained from a perfectly normal nerve; thus showing how complete has been the regeneration of the excised part."

The cicatricial neuromata in this case resemble those of the lower animals under similar circumstances; there, as here, the central swelling is always the larger. Dr. B. believes the evident increase by segmentation in the nuclei of the neurilemma in this case, "leaves little room for doubt that also in the human subject these nuclei are the principal factors in the reproduction of divided nerves." He has experimented upon several kittens, dividing the ischiatic nerves and watching the process of repair. The results are confimatory of the observations of others. The power of regeneration is stronger the younger the animal.

The first traces of regeneration show themselves a few days after the ligation of the nerve. The commencement is due to the active proliferation of the nuclei of the neurilemma. "They multiply by segmentation, are arranged in rows and surrounded by a layer of protoplasm; have roundish, oval and even spindle forms. This proliferation is seen in the central swelling and throughout (Benecki) the peripheral end of the nerve; the increased nuclei elongate into long spindles, the medullary substance disappearing. These spindle-shaped nuclei send out long filamentous protoplasmic processes, which unite with one another and widen into narrow bands. These fibers are next surrounded by a second 'glittering contour.' These short cylinders gradually blend into one continuous medullary sheath. The nerve sheath being next filled out at all points with medullary substance around the axis-cylinder, present a uniform width throughout, and the regenerative process is now complete."

"The reunion of the separate nerve ends, in cases of excision, does not take place by the primitive fibers of the central and peripheral ends simply growing toward each other," "but is brought about by the coalescence of spindle cells, arranged in rows in the intermediate cicatricial portion, which, at the same time, unite with the primitive fibers of both ends."

III. Surgery.

1. *Percussion of the Bones.* Luecke. (*Centralbl. f. Chir.*, 1876, No. 43.)

The percussion of the bones may be employed for a two-fold purpose, viz.: either to ascertain a painful place in the bone, or to diagnose patho-

logical changes in its texture by the alteration of the normal sound of the bone. For the first mentioned purpose the percussion has, long since, been practiced; but we must give it greater attention, since we begin to surgically treat central affections of the bones, before they can injure the neighboring structures. In order to find most accurately the painful spot, we can, for this kind of percussion, use our fingers or small percussion hammers; but we must never omit to compare the result with the sound side, because of the great variation of sensitiveness among patients.

The second object of the percussion of bones is to ascertain an acoustic difference between a diseased and healthy bone. The long bones of the extremities afford the best conditions for this study. The like bones always show the same sound; but the epiphyses give a higher sound than the diaphyses. A recently united fracture indicates by a lower pitch of its percussion sound the occlusion of its central cavity and the presence of an abnormally thick mass of bone. Chronic osteitis of the epiphysis makes its sound lower, while a tibia which had become very porous yielded a remarkably higher sound than the normal tibia of the other leg.

The percussion of the extremities is executed while they are raised from the bed or table.

2. *Cheap Antiseptic Dressing.* BALFOUR. (*Ed. Med. Journal*, Aug., 1876.)

Dr. B. uses sulphurous acid, one part to twelve of water, as a constant lotion and dressing for wounds. He claims from it alleviation of pain, diminished suppuration, prompt healing, ease of application, and cheapness. Three cases are quoted in endorsement. J. S. K.

IV. OBSTETRICS AND GYNÆCOLOGY.

1. *On the Weight of New Born Infants.* INGERSLEV. (*Revue des Sciences Médicales*, Oct. 10.)

The average weight of 3,450 infants at term, ascertained by the authorities of the lying-in asylum, at Copenhagen, was 3,333.5 grammes. Of this number 1,833 boys had an average weight of 3,380.6 grammes; and 1,617 girls showed an average weight of 3,279.7 gr. The boys therefore exceeded the girls in weight by an average of 100 gr. Of 19 children—13 boys and 6 girls—the weight varied between 9 and 10 pounds. One boy alone exceeded 10 pounds, weighing 10⅜.

1,723 children of primiparæ weighed, upon an average, 3,254 gr, and 1,727 children of multiparæ, 3,412 gr.; that is, the average weight of the latter was greater by 158 gr.

Mothers less than 19 years old seemed to bear lighter children than the others. Consulting one table in which the age of the mother is stated irrespective of the number of pregnancies, it is apparent that the weight of the newly born increases with that of the mother up to the 40th year. From the 40th to the 48th year the weight of the children again diminishes.

In order to ascertain the influence of a number of pregnancies, the author has prepared a table of the average weight of newly born children for the different pregnancies, irrespective of the age of the mother, indicating, however, the average epoch at which their pregnancies occurred. It is here apparent that the weight of the children increases with the number of pregnancies. There is, however, an exception in the case of girls born at the third pregnancy; but at the fourth and fifth their weight resumes its normal progression. Yet, since the age of the mother increases with the number of pregnancies, the increase in the weight of the child might be attributed to that circumstance.

After birth for a few days the infant loses its weight. Yet an increase may be noticed on the first day if the meconium is retained (which is ordinarily evacuated before the first weighing) or if the infant has been put to the breast. But this is a mere transitory increment, and the loss of weight is established at the second or third weighing. It is equivalent to one-fourteenth or one-fifteenth of the total weight, and is relatively and absolutely more considerable in the children of primiparæ, and in boys rather than girls. The latter, however, make up the loss more rapidly than the former. The initial loss is greater according as the child lacks vigor, and correspondingly the subsequent increase is more slow. The same is true in all children prematurely born.

The increment begins on the fourth (some authors say on the third) day. The causes of the loss of weight are: first of all, the evacuations; next, the condition of alimentation and assimilation. The meconium and the urine represent, at the most, the half of this loss; while the other must be produced by the operation of some other cause. It cannot be due to insufficient alimentation, since the richest alimentation cannot prevent it.

NOTE BY THE EDS.: The second factor referred to above as a cause of the loss of weight, must be the evaporation from the cutaneous surface. The unborn fœtus is an aquatic animal whose life is sustained while the body is immersed in a fluid medium of a high temperature. The effect of a sudden removal to a different medium of a different temperature is the evaporation of a large quantity of watery vapor from the surface and the moist tissues adjacent to it, as well from the skin as the lungs. It must be remembered that the pound referred to above, is the French metrical pound, equivalent to 500 grammes, or about 1 pound, 1 oz. and 10 drachms avoirdupois.

2. *Dangers of the Pessary.* NOTTA. (*L'Union Médicale*, Nov. 14.)

Several cases were reported. In the first, a woman 58 years old, afflicted with uterine prolapse (the organ projecting from the vulva) was immediately relieved by the application of the pessary. Soon after she fell accidentally, and the weight of the body came full upon the pessary. She suffered severe pain, which was followed in a few days by incontinence of urine. The pessary had penetrated into the bladder, and was withdrawn

from the latter by Liston's forceps. Considerable loss of substance ensued and a permanent vesico-vaginal fistula.

A second woman, 35 years of age, had some insignificant disorder six months after the birth of her ninth child, for which she consulted a charlatan. He applied a Gariel pessary, which produced violent vaginitis with a very profuse and fetid muco-purulent discharge. The pain and the abundance and horrible odor of the discharge finally became insupportable, and as she found no relief from the advice of the would-be surgeon, she applied to Notta. He discovered an abscess which perforated the abdominal parietes, and was followed by an intractable fistula.

Another woman had granular endo-cervicitis with some hysterical symptoms, which improved under the author's cauterization and hydrotherapy, when by the advice of a neighbor she consulted the same charlatan. He applied the Gariel pessary, as usual, and produced a peri-uterine phlegmon, peritoneal inflammation, with abscesses, which in six months destroyed her life. Notta was summoned near the conclusion of the case and the unfortunate woman narrated to him the history of her sufferings with her own lips. Notta proceeded at once to institute judicial proceedings against the malfactor.

V. THERAPEUTICS.

1. *Liquor Potassæ in Diphtheria.* SHALL. (*Boston Jour. Chem.*, June, 1876.)

This agent is considered by the writer the quickest solvent of the diphtheritic membrane. Twenty drops doses every three hours, in the first case in which liquor potassæ was used, after 24 hours' use of iron, potassic chlorate, ammonia, etc., was followed by an entire disappearance of the membrane and by defervescence. Its use is followed by uniformity of result, viz.: disappearance of membrane. While it is not considered a *specific* by the writer, it is declared extraordinarily useful. Dose, 20 drops every three hours, diluted largely, for adults; for minors, dose must be graduated.

2. *Ergot, Hypodermically, in Spleen Enlargement.* MILLER. (*Cin. Med. News*, 1876.)

The spleen, in the case reported, enlarged from malarial poisoning, occupied nearly all the abdominal cavity, extending into the right hypochondrium, and from the umbilicus into the epigastrium. Other remedies having uterly failed, ergot, hypodermically daily, reduced the organ to proper proportions in less than 10 days. Nearly a month later the reduction was found to be permanent.

3. *Wash to Prevent Bedsores.* (*New Remedies.*)

For this purpose Sir James Paget recommends a wash composed of one part sweet spirits of nitre, and three parts water. J. S. K.

4. *Calabar Bean as a Galactagogue.* (*New Remedies.*)

In the *Bristol Medical Journal* of Oct. 28th, Dr. W. Monro remarks that he had already brought before the profession various uses to which Calabar bean might be put, from its power of dilating the peripheral blood vessels. Wishing, recently, to restore the secretion of milk after it had disappeared from the breast about three days, he had prepared an ointment of the strength of 20 grains of the bean to the ounce, and ordered it to be applied and washed off carefully before the baby was allowed to suck. After two application, the baby not having been put to the breast in the meanwhile, the milk returned in full flow. J. S. K.

5. *Lime Water in Infantile Eczema and Impetigo.* (*Bulletin de Therap Southern Med. Record.*)

It is especially useful in chronic cases of eczema of head and impetigo of face that have resisted other treatment. It is to be taken in quantities varying up to eight ounces, daily, according to age. If the secretions are very irritating dust the parts with carbonate of magnesia. J. S. K.

6. *Sulphide of Carbon.* DOERING. (*Pacific Med. and Surg. Journal*, Oct., 1876.)

The following brief summary embodies the results the writer has obtained after an extensive trial with this drug:

1. Sulphide of carbon is particularly useful in all ulcers showing a tendency to spread, especially if of a syphilitic nature. It ought to be applied freely at least twice a day.

2. If no beneficial effect is observed after trial with this drug for a week, in any class of ulcer, it will be useless to continue its further application.

3. It is by far the best local application thus far presented to the profession in the treatment of that large class of ulcers termed indolent or chronic.

Sulphide of carbon is a transparent, colorless, exceedingly volatile fluid, of pungent, aromatic taste and very fetid smell. The mode of application is to lightly brush the surface of the ulcer by means of a camel hair pencil or piece of lint, and then cover the surface with some mild, unirritating powder, as subnitrate of bismuth or starch. The application generally produces severe pain, which, however, lasts but a few seconds. J. S. K.

7. *Bromohydrate of Conia.* MOURRUT. (*Répertoire de Pharmacie.*)

M. M. states that this salt has been used with success in the treatment of whooping cough, in doses of one-twelfth grain, if necessary every hour, for a child three years of age; or one-thirtieth grain for a child of one year; or one-sixth grain for adults. Good results have also followed its hypodermic use in sciatica, in quantities of one-twelfth grain. The salt, when pure, occurs in colorless prismatic needles, soluble in water and alcohol,

less so in ether or chloroform, is odorless, nearly tasteless and deliquescent. Exposed to the light it turns red but does not decompose, should therefore be kept dark. J. S. K.

8. *Conium.* HAMILTON. (*Med. and Surg. Reporter*, Nov. 4, 1876.)

Dr. H. says that in the treatment of diseases where tremor is a symptom much benefit has followed the use of conium at the Female Epileptic and Paralytic Hospital, Blackwell's Island. In two cases of chorea, of long standing, it produced a prompt amelioration of the patient's condition, and in the tremor of sclerosis it suppressed the movements for several weeks. It was given in the form of fluid extract in doses of 10 m., three times a day. J. S. K.

9. *Ergot in Diarrhœa.* COMEGYS. (*N. Y. Med. Record*, Aug. 26, 1876.)

Dr. C. was induced thus to use this drug from a belief in its power in causing contraction in unstriped muscular fibre. If such were its action it would relieve the atony of the vessels of the intestinal mucous membrane, diminish hyperæmia by contracting the capillaries, and prevent the transudation of the watery part of the blood. To one patient, suffering from chronic diarrhœa of two years standing, 40 drops of fluid ext. ergot were given three times a day, and in four days the number of stools was reduced from eight to two per day. In 10 days the patient was quite recovered. A similar successful use of ergot in many other cases causes him to recommend the treatment to the profession. J. S. K.

10. *Monobromide of Camphor.* Goss. (*Med. and Surg. Reporter*, Oct. 28, 1876.)

The monobromide of camphor consists of one equivalent of camphor and one of bromine united (C_{10}, N_{16}, O, Br.). It is a white crystalline salt, having the odor of camphor and slightly that of bromine. The atmosphere decomposes it at a temperature of 100° F. W. A. Hammond has used it successfully in infantile convulsions from teething, dose one gr. each hour; hysteria, four gr. each hour; headache in females from nervous excitement or over study, one dose of four grains being sufficient for cure.

Dr. G. says in chordee, in doses of one or two grains each hour, it is a very positive remedy, one or two doses generally giving relief. In nymphomania there is no remedy equal to this compound salt of camphor and bromine. It is also a positive remedy in spermatorrhœa, nocturnal emissions with amorous dreams, in doses of three or four grains, at bedtime.

In cases of cerebral anæmia, from excessive venery, it calms nervous excitement; in debility, with cold extremities from feeble heart, it equalizes circulation—impressing the cerebro-spinal system. Dose, three or four grains three times a day.

In nocturnal incontinences of urine it is efficacious in doses of from one to six grains at bedtime.

(Best given disolved in alcohol and glycerine, or suspended in mucilage and syrup as it irritates the stomach—J. S. K.)

11. *Viburnum Primifolium.* JENKS. (*N. Y. Med. Record.*)

The virtue attributed to black haw is that it prevents abortions by some sedative action upon the uterus, apparently the opposite of that of ergot. It has been used extensively for this purpose by Drs. Faris, of Miss., Jenks, of Detroit, and Bates, of New York. It is also useful in menorrhagia coming on during the menopause, and in cases of dysmenorrhœa when there is no mechanical cause of obstruction.

The method of administration is to give the fluid extract in doses of from one-half to one drachm a few days before and a few days after the menstrual period, or from two to four grains of resinoid in the same manner. J. S. K.

12. *Bromide of Potassium as a Caustic.* PEYRAND. (*Canadian Journal of Med. Science.* Nov., 1876.)

M. Peyrand's first clinical experiment on the subject took place in April, 1874, when by means of daily applications of powered bromide he effected the removal, within 28 days, of an epitheliomatous growth on the face. He has since had equally good results from this treatment of atonic ulcers of the legs; rapid cicatrization following the separation of sloughs following the application. In such cases he uses either the powder or an ointment of one part in five, or a mixture (one in ten) of glycerine. In many skin affections, as chronic eczema, pityriasis, and acne, in phagedæna, ulcerative stomatitis, and many other local inflammatory disorders, he has found it of use. As a local hæmostatic a solution of one part in fifty has served for epistaxis; and as a general hæmostatic its success in many cases of hæmoptysis and metrorrhagia was very marked where ergot, perchloride of iron and rhatany had failed. J. S. K.

VI. SYPHILIS AND VENEREAL DISEASES.

1. *Syphilis of Pregnant Women.* DARVOSKY. (*Memorabilien*, 1876, No. 10.)

Although, as a rule, the heroic treatment of diseases ought to be avoided in women far advanced in pregnancy, the writer holds that syphilis should be an exception to this rule. He advises the inunction cure, to be pursued energetically but judiciously, so that salivation be obviated, and that the simultaneous internal exhibition of potassic iodide be employed. One-half drachm of the mercurial ointment to be rubbed in daily, scrupulous cleanliness, frequent gargling with chlorate of potash, and thorough ventilation of the room. Such is the doctor's method, which he is not afraid to apply even during the last month of pregnancy.

2. *Communication of Syphilis by a Midwife.* DARVOSKY. (*Memorabilien*, 1876, No. 10.)

A young woman, married one year, had been delivered of a healthy child eight weeks before. She had been healthy during her pregnancy, and in

her confinement nothing occurred to attract special attention. But shortly after that time she felt a burning and itching sensation about the genitals, which was soon followed by a tumefaction of the labia majora. The doctor found, on examination, broad condylomata of the labia and around the anus, roseola syphilitica, angina syphilitica, and indurated glands of the inguinal and cervical region. The husband had broad condylomata upon the penis and scrotum, but as yet no sign of universal lues; he admitted having had sexual intercourse with his wife five weeks after her confinement. The baby was perfectly healthy; the most scrupulous examinations could not detect anything suspicious. The woman showing the general signs while her husband had the initial symptoms of syphilis, she must have contracted the disease first. The doctor suspecting the midwife, found her affected with broad condylomata and induration of the glands; he further ascertained that she, after attending a syphilitic woman, had an ulcerated finger; that this ulcer was not entirely healed when she attended the above lady; and that another lady whom she had attended at about the same time had since then showed signs of syphilis.

3. *Suspected Vaccinal Syphilis.* GUERIN. (*L' Union Médicale*, November 23, 1876.)

Guérin presented to the Paris Academy of Medicine a little patient who had been vaccinated nine days after birth — seven weeks prior to date. The immediate results of the vaccination had been quite normal, the vesico-pustules becoming well developed. On the eighth day the virus from the latter had been employed in the vaccination of an elder brother, in whose case the evolution of the disease and the subsequent cicatrization had been entirely regular.

In the case of the first child, however, deep ulceration had occurred at the three sites of inoculation, with indurated edges, quite analogous to that found in indurated chancre; but the corresponding lymphatic ganglia were not engorged. On the same arm, however, was a perfectly cicatrized periostosis. The difficulty was pointed out of establishing the influence of syphilis in a case which displayed tertiary symptoms after a few weeks, without the occurrence of symptoms intermediate between it and the primary lesion. The reporter consequently assumed the phenomena to be manifestations of the strumous diathesis in an infant vaccinated very early after birth; others who observed the child being inclined to adopt the same opinion.

4. *Communication of Syphilis by Milk.* VOSS. (*Petersburg Med. Wochenschrift*, No. 23, 1876.)

Three prostitutes were inoculated with the milk of a woman affected with papular syphilis, who suffered also from moist mucous papules of the anal and genital regions — the mammary glands being free from disease. A syringeful of milk, expressed from one breast, was injected into the tissues of each prostitute by means of a Pravaz syringe. One who had been previously syphilitic, suffered no inconvenience; the second had.

urethritis, and was not affected; the third was a young girl sixteen years old, free from syphilis, who was injected on the eleventh day after her admission to the hospital. The inflammation and local suppuration excited, subsided in one week; but forty days after the inoculation papules were developed around the site of the injection, and in five days a maculo-papular syphilide appeared over the body, with concomitant adenopathy — these symptoms disappearing after the employment of mercurial inunction.

5. *The Tincture of Tayuya in Syphilis.* LONGHI. (*Gazz. Med. Italiana-Lombardia*, November 25, 1876.)

The third observation of the author concerned the case of a child three months old, who had been suckled by a nurse after the latter had been infected with syphilis by a former nursling. The infant exhibited over the groins and external genitalia, ten or twelve papules, of the size of large peas, rounded in contour, and covered with a whitish offensive secretion — these lesions being implanted upon an integument which was considerably reddened. Upon the lips of the mouth were several small whitish ulcers with reddened borders. Similar sores were also found upon the tongue. The diagnosis was made of papular syphilis of the genitals and mouth. Three teaspoonfuls daily were given of a solution containing one hundred and fifty drops of the dilute tincture of tayuya (Ubicini Brothers') in eight hundred grammes of water. The parts were bathed three or four times daily in the same solution. In a fortnight the cure was complete, the author expressing a regret that he could not have tested the treatment further, and made continued observation of the case.

The fourth case of the series is that of a patient thirty-six years old, who had had repeated attacks of gonorrhœa, and a gleety discharge for fifteen years. During this period he had suffered frequently from articular and muscular pains, which were accompanied by swellings upon the manubrium of the sternum, the occipital and parietal bones, the dorsal vertebræ and ribs. There had been also copper-colored blotches of the surface — one upon the left pectoral region being as large as the hand of an adult. He had vainly tried many kinds of empirical treatment, not neglecting the use of mercury, iodine, hot baths, etc. On the first of September he could hardly move in bed; the lateral movements of the neck were evidently accomplished only with difficulty, and all sudden motions (sneezing, coughing, etc.,) were excessively painful. The bones were enlarged, as described above; while the eruption and gleety discharge observed did not seem of recent development. A diagnosis was established of macular syphilide, with syphilitic periostitis and arthritis. For several preceding months the patient had taken no medicine; but in July he had been subjected to a hydrotherapy, which left him in a more unfavorable condition than at first. On the 12th of September the treatment by tayuya was begun, in doses of fifteen drops of the dilute tincture in two hundred grammes of water. In five days the patient could tolerate forty drops in the same quantity, which were continued till September 20th. On that day he took

eighteen drops of the mother tincture, increased to forty of the same by October 1st, then slight abdominal pain was complained of, when but thirty-five drops of the strong tincture were ordered to be employed. The patient had now for several days stated that his pains were not one-fifth of what they were formerly; the osseous enlargements had well nigh disappeared, and also the cutaneous maculæ, with the exception of that upon the breast, which was smaller by two-thirds than at the beginning of treatment; the gleet had completely disappeared. Some recurrence of pain occurred after drinking half a litre of wine with his companions, when the dose was again increased to forty drops. On October 5th, the commercial tincture was substituted for that employed, in eighty drops daily (the mother tincture being exhausted), and the latter dose gradually reduced to fifty drops by November 10th, the date of the writer's last observation. All the osseous enlargements have disappeared; but the pectoral macule is still visible, and the pain only appears for a day after drinking wine, becoming constipated, or on exposure to the cold.

6. *The Hypodermic Treatment of Syphilis.* NEUMANN. [Memoir presented to the Imperial Academy of Medicine, Vienna.] (*Anales de Ciencias Méd.*, November 20.)

After a brief historical sketch of this mode of treatment, Neumann proceeded to show the value of injections made with the albuminate of mercury. The advantages claimed were, that there is the least degree of reaction, and no abscesses nor gangrene follow. Under any circumstances before absorption of mercury can occur, it must be united with albuminous substances — precisely what occurs when the mineral is taken into the stomach. Bamberger's solution (of the albuminate of mercury), however, contains the sublimate already combined with albuminoid substance, and hence it enters the tissues of the body without requiring further transformation. It is thus readily absorbed, and the tissues of the body are not altered by its admission. Therefore it is especially useful when speedy effects are desired, as its operation is more rapid than that of the protiodid and corrosive sublimate when administered by the mouth. Besides, the number of injections can be readily regulated, the dosage is completely under the control of the operator, and the stomach and bowels are left undisturbed and unirritated. Stomatitis also is rare. The disadvantages which have been claimed by certain authors, viz.: elevation of the temperature, increase in the frequency of the pulse, colliquative diarrhœa, formation of abscesses, etc., have not resulted, in Neumann's experience, from the employment of Bamberger's solution.

ANNOUNCEMENTS FOR THE MONTH.

MONDAYS. SOCIETIES.

Mondays, Jan. 1 *and* 5.—Chicago Medical Society. Regular meetings.

Mondays, Jan. 8 *and* 22.—Chicago Soc. of Phys. and Surgeons. Regular meetings.

CLINICS. *Every Monday.*

At Eye and Ear Infirmary, 2 P. M.—Prof. Holmes.

At Central Dispensary (Wood and Harrison sts.)—2 P.M. *Gynecological*, Dr. Adolphus; 3 P.M. *Diseases of Children*, Dr. R. S. Hall.

At Mercy Hospital—2 P. M., *Surgical*, Prof. Andrews.

At Rush College—2½ P. M., *Medical*, Dr. Bridge.

At Chicago College, 2 P. M *Gynecological*—Prof. Merriman.

LECTURES. *Every Monday.*

At Rush Medical College (Harrison and Wood sts.)—9½ to 12½ o'clock, Profs. Freer, Lyman and Powell; 4 to 6, Profs. Gunn and Haines. At Chicago College—8½ to 12½, Profs. Jewell, Hyde, Hatfield and Bond; 3 to 6, Profs. Nelson and Davis, Quine and Andrews, and Roler. At Woman's College—8½ to 11½, Profs. Hotz, Marguerat and Earle; 3 to 5, Profs. Paoli and Stevenson.

TUESDAYS. SOCIETIES.

Tuesday, Jan. 9.—Academy of Science. Regular meeting at 8 P.M. (263 Wabash av.)

CLINICS. *Every Tuesday.*

At Eye and Ear Infirmary—2 P. M., Prof. Jones.

At County Hospital—2 P. M., *Medical*, Prof. Ross. 3 P. M., *Surgical*, Prof. Bogue.

At Mercy Hospital—2 P. M., *Medical*, Prof. Hollister.

At Chicago College—2 P. M., *Gynecological*, Prof. Roler.

At Central Dispensary—2, *Surgical*, Dr. Graham.

LECTURES. *Every Tuesday.*

At Rush College—9½ to 12½, Profs. Miller, Allen and Parkes; 4 to 6, Profs. Gunn and Haines. At Chicago College—8½ to 12½, Profs. Jewell, Quine, Merriman and Bond; 3 to 6, Profs. Johnson and Nelson, Andrews and Hatfield, and Byford. At Woman's College—9 to 12, Profs. Bartlett, Curtis and Fitch; 3 and 5, Profs. Hayes and Macdonald.

WEDNESDAYS. CLINICS. *Every Wednesday.*

At Eye and Ear Infirmary—2 P.M., Prof. Holmes. [Montgomery.

At County Hospital—2 P. M., *Gynecological*, Prof. Fitch; 2 P. M., *Ophthalmological*, Dr.

At Chicago College—2 P. M., *Gynecological*, Prof. Nelson.

At Mercy Hospital—2 P. M., *Ophthalmological*, Prof. Jones.

At Central Dispensary—3 P. M., *Dermatological*, Dr. Maynard.

LECTURES. *Every Wednesday.*

At Rush College—9½ to 12½, Profs. Freer, Allen and Parkes; 4 to 6, Profs. Etheridge and Haines. At Chicago College—8½ to 12½, Profs. Hyde, Isham, Hatfield and Bond; 3 to 6, Profs. Davis and Curtis, Quine and Jones, and Roler. At Woman's College—8:30 to 12, Profs. Marguerat, Hotz and Blake; 3 to 6, Paoli, Graham and Stevenson.

THURSDAYS. CLINICS. *Every Thursday.*

At Eye and Ear Infirmary—2 P. M., Prof. Hotz.

At Mercy Hospital—2 P. M., *Medical*, Prof. Davis. [*tem*, Prof. Lyman.

At Rush College—2 P. M., *Medical*, Prof. Ross; 3 P. M., *Diseases of the Nervous Sys-*

At Chicago College—2 P. M., *Gynecological*, Prof. Merriman.

At Central Dispensary—2 P.M., *Surgical*, Dr. Graham.

LECTURES. *Every Thursday.*

At Rush College—9½ to 12½, Profs. Miller, Allen and Parkes; 4 to 6, Profs. Gunn and Etheridge. At Chicago College—8½ to 12½. Profs. Hollister, Isham, Merriman and Bond; 3 to 6, Profs. Johnson and Nelson, Andrews and Hatfield, and Byford. At Woman's College—9 to 12, Profs. Bartlett, Curtis and Fitch; 4 to 6, Profs. Macdonald and Thompson.

FRIDAYS. SOCIETIES.

Friday, Jan. 12.—State Microscopical Society of Illinois. Regular meeting, 8 P. M.

CLINICS. *Every Friday.*

At County Hospital—2 P. M., *Medical*, Prof. Ross; 3 P. M., *Surgical*, Prof. Bogue.

At Mercy Hospital—2 P. M., *Medical*, Prof. Davis.

At Chicago College—2 P. M., *Gynecological*, Prof. Roler. [*dren*, Dr. R. S. Hall.

At Central Dispensary—2 P. M., *Gynecological*, Dr. Adolphus; 3 P.M., *Diseases of Chil-*

LECTURES. *Every Friday.*

At Rush College—9½ to 12½, Profs. Freer, Allen and Parkes; 4 to 6, Profs. Gunn and Holmes. At Chicago College—8½ to 12½, Profs. Hollister, Isham, Hatfield and Bond; 3 to 6, Profs. Davis and Curtis, Jones and Quine, and Roler. At Woman's College—9 to 12, Profs. Dyas, Marguerat and Earle; 3 to 5, Prof. Hayes; 5, Prof. Stevenson.

SATURDAYS. CLINICS. *Every Saturday.*

At Chicago College—2 P. M., *Surgical*, Prof. Andrews or Isham; *Gynecological*, Prof. Nelson; 3 P. M., *Medical*, Prof. Johnson.

At Rush College—2 P. M., *Surgical*, Prof. Gunn.

LECTURES. *Every Saturday.*

At Rush College—8½ to 12½, Profs. Lyman, Miller, Etheridge and Parks. At Chicago College, 8½ to 11½. Profs. Hollister, Quine and Hyde; 3 to 6, Profs. Nelson and Johnson, Andrews and Quine and Byford. At Woman's College—9 to 11, Profs. Bartlett, Earle and Fitch; 3 and 5, Profs. Paoli, Thompson and Macdonald.

At all the above named Clinics visiting regular practitioners are, we believe, admitted.

At the South Side Dispensary (Chicago College) there are six daily special Clinics, for sections of the classes of the Chicago College.

THE

Chicago Medical Journal

AND

EXAMINER.

VOL. XXXIV.—FEBURARY, 1877.—No. 2.

Original Communications.

A CASE OF UTERINE FIBRO-CYSTOMA.

BY FRANKLIN STAPLES, M.D., WINONA, MINN.

Mrs. B., aged 51, died in Winona, Minn., Aug. 31, 1876, from what was supposed to be ovarian tumor; but what was found, on *post mortem* examination, to be uterine fibro-cystoma.

I was called to attend the case only a few days before death. There was extreme emaciation, complete loss of appetite, with diarrhœa and an aphthous condition of the mucous membrane of the mouth. Death resulted from septicæmia and prostration.

Dr. J. B. McGaughey, of Winona, assisted me in the autopsy. On making the incision through the attenuated abdominal walls, we came upon what we supposed was a large ovarian cyst, occupying, equally on each side, the whole abdominal cavity, crowding the intestines upward and backward. There was no fluid in the peritoneal cavity. On feeling for the pedicle we found, in the inguinal region of both sides, attachments which proved to be from the broad and round ligaments of the uterus; and in front and beneath

what we at first supposed to be visceral and parietal adhesions, but what proved to be simply the reflections of the peritoneum to the bladder and pelvic parietes. In short, we had, instead of an ovarian cyst, not simply a subserous fibroid attached to the fundus of the uterus, but a fluctuating tumor involving the uterus itself; the broad ligaments with their inclosures extending from the fundus of the mass. The whole was easily removed by dividing the attachments to the inguinal regions, the peritoneum at its reflections from the tumor and the vagina just below the os uteri. The weight of the mass was 14½ pounds.

The appearance of the tumor: 1st, On its anterior aspect and without disection. 2d, On the left side with the uterine cavity laid open; and, 3d, With the mass laid open from behind showing the cavity of the large cyst, is shown in the cuts 1, 2 and 3.

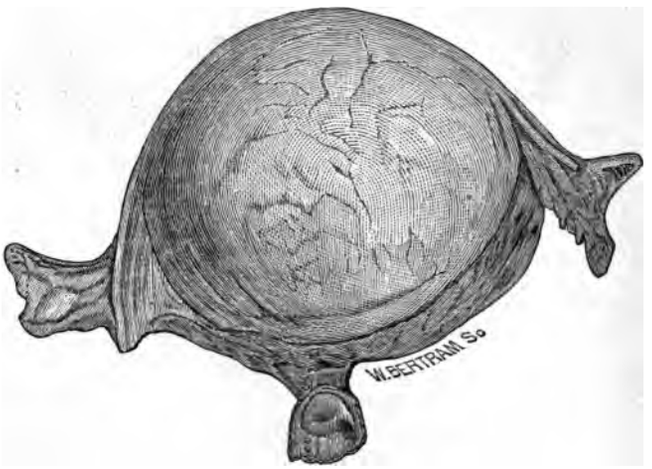


FIGURE 1.

ANTERIOR ASPECT OF TUMOR—showing uterine appendages in their relation to the Mass, and the os and cervix uteri.

The interest in this case is not alone on account of the rarity of this form of tumor, but especially because of the

liability of confounding, in diagnosis, this with ovarian cystoma.

The rules laid down by Wells, as a guide in the differential diagnosis between uterine and ovarian tumors, do not hold in many particulars when the uterine tumor is of the cystic variety, and especially when in case of a monocyst of large size.

The following points from what of the history of the case I was able to obtain, and from examination before and after death, are given in connection with Peaslee's table of differential diagnosis between uterine fibro-cystoma and ovarian cysts.

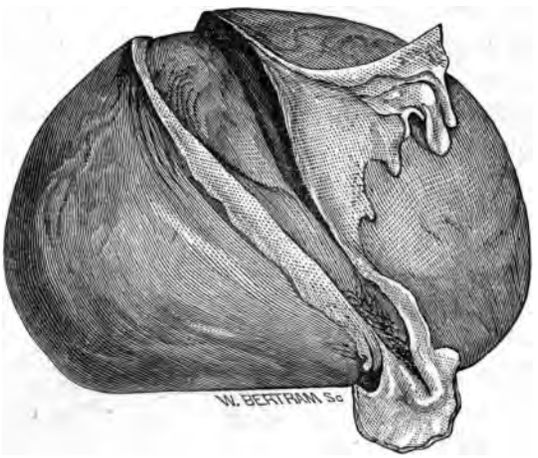


FIGURE 2.

LATERAL VIEW OF TUMOR — with the uterine cavity laid open, showing the tumor to be in the posterior uterine wall.

UTERINE FIBRO-CYST. 3d stage.	OVARIAN CYST. 3d stage.
Occurs after thirty almost always.	Occurs earlier than thirty years, as well as later.
My patient was 51 years old.	
Slow growth at first. Rare.	More rapid, and more common.

Ten years ago complained of difficulty in lower left side of abdomen. She was fleshy and no distinct tumor was made

out. There was lameness through the left hip. Her general health had always been good, but from early life she had complained of pain in the back.

Expression good till very large.	Expression characteristic (*Facies ovariana*).

There was the peculiar expression and emaciation of the face which Wells, Brown and Peaslee have described as charteristic of the subject of ovarian tumor in the advanced stage.

Complexion dark and injected, (*facies uterina.*) Sometime florid. No emaciation.	Pale, emaciated.

The first description would apply to the patient until about a year and a half ago, when a gradual change was apparent; and for several months before her death the last description was as equally applicable.

General health for a long time good.	Has failed by the end of the second stage.

The general health was good until near the end of life. For the last two years, however, the stomach has been irritable sometimes, and there has been occasional loss of appetite.

Abdominal veins not enlarged.	Enlarged.
Not enlarged.	
Umbilicus not prominent.	Umbilicus prominent.
Somewhat prominent.	
No amenorrhœa. Menorrhagia seldom.	Amenorrhœa.

Menstruation was regular and normal until five years ago. No menstruation since. Her age was 51. She was never pregnant, had been married 34 years.

Kidneys normal,	Kidneys inactive.
Variable; generally normal;	sometimes inactive.
Tenderness on pressure at first.	Not tender.

There may have been tenderness at first, but not in the later history.

Elasticity, afterward evident fluctuation.	Fluctuation throughout its course.

Only examined late in its course; then very decided fluctuation.

Surface lobulated at first. May remain so.	Not lobulated, except in polycysts.

Not lobulated.

Cyst wall of livid hue. Very vascular.	Cyst wall of lighter color. Less vascular.

Seen only after death, but evidently more vascular than in ovarian tumor.

Per vaginam, uterus moved with tumor if at all.	Uterus movable independent of tumor.

As to mobility of the uterus separate from the tumor, I was in the present case completely mistaken. The tumor was held firm by the abdominal parietes closely drawn over it; and the length of the os and cervix (see cuts) allowed such mobility here that I was led to believe that I had the whole of the uterus separate from the tumor. I believed the uterus to be atrophied, it never having been impregnated, and the patient being five years past the menopause.

Uterine cavity elongated generally.	Not elongated.

I was not able to introduce even the smallest sound during life. In the *post mortem* examination the uterine cavity was found to be elongated over half the circumference of the tumor. (See cut No. 2.)

Fluid, yellow, serous, with little albumen, or fibrinous like lymph, and spontaneously coagulable. But it may be dark brown or hæmorrhagic.	Lighter in monocysts not before tapped; highly albuminous; sometimes colloid.

There was in the large cyst four pints and a half of dark hæmorrhagic, serous fluid. It was without odor. There was

in the cavities and interstices of the solid portion of the tumor considerable sero-purulent matter, of a light muddy color. The structure of this part of the mass had evidently suffered change, had been softened and partially broken down by recent changes tending to suppuration. This accounts for the septicæmia which was the immediate cause of death.

Concerning this form of tumor Dr. Peaslee has the following: "If we follow the development of the uterine fibroma, we find that cysts are liable to be developed in it as a secondary formation. We then have one of the forms of fibro-cystic tumor of the uterus.

FIGURE 3.

TUMOR LAID OPEN FROM BEHIND—showing one large cyst, the honeycombed structure of the solid portion of the tumor, with smaller cysts in the same, and with muscular wall of the uterus involving the whole.

"Recognized as a distinct class of tumors but a few years since, and first described by Cruveilhier, they have frequently been mistaken for ovarian cysts by the ovariotomists. Sometimes they have been removed as ovarian cysts and the mistake discovered only by a subsequent examination of the mass removed, or by a *post mortem* investigation which showed both ovaries to be in a normal condition."

I. Baker Brown remarks that he knows of no distinguishing signs between uterine fibro-cyst and ovarian cystoma, and Dr.

Peaslee has himself operated for the removal of an ovarian oligocyst in a case of a uterine fibro-cyst, and this even after a tapping by which he removed from the principal cyst 40 pounds of a brownish fluid. This, however, was in the case of a sub-serous cyst attached to the fundus uteri by a pedicle an inch in diameter and a quarter of an inch long. The mass weighed 50 pounds. It was successfully removed, and recovery took place.

More nearly allied to the present case was that reported in the *Boston Medical and Surgical Journal*, for July 13, 1876, as occurring in the practice of Dr. Gilman Kimball, of Lowell, Mass. The tumor was described as a fibrous growth extending by prolongation to the uterus and thoroughly blended with that organ, making one continuous substance. After removal the mass was found to consist of 20 pounds of straw colored fluid and five pounds of solid material; the latter consisting of the cyst, the fibrous growth, both ovaries, parts of the suspensory ligaments of the uterus and the uterus itself. Recovery followed.

Dr. Wm. T. Lusk, in December, 1875, presented a specimen and reported a case of pregnancy with fibro-cystic tumor of the uterus, in which there was almost complete occlusion of the cervix uteri. In delivery ecclampsia occurred—version—post partum hæmorrhage, and death from peritonitis and collapse. *Post mortem*, the cavity of the uterus was found to occupy the right side of the growth. The tumor was of the fibro-cystic variety. It was honey-combed, with cells containing a clear fluid. It weighed six and a half pounds. There were extensive adhesions with the intestines. (*Am. Jour. of Obst.*, April, 1876.)

Concerning the comparative frequency of fibro-cystic disease of the uterus, we have the following from eminent writers:

Peaslee. "Fibro-cystic tumors of the uterus were first distinctly recognized only very recently, and are quite rare. Only 14 cases had been reported in 1869, and two of these were detected after death by Kiwisch and Cruveilhier. They may be either sub-peritoneal or interstitial."

"Cruveilhier thinks this form of fibro-cyst is produced by the progressive dilatation of lymphatic vessels; and states that they are always consecutive to some mechanical obstacles to the circulation of the lymph."

"Klob merely quotes a single case from Kiwisch, and alludes to one described by Cruveilhier, after designating such instances as very rare and extraordinary."

T. Spencer Wells. "Of the first 130 operations for tumors (115 being ovariotomy), only two cases proved to be fibro-cystic tumor of the uterus."

Dr. Keith. "In 100 operations of ovariotomy only one case of uterine fibro-cyst occurred."

Dr. Peaslee, from his own observation, and the reports of Drs. T. A. Emmet, Charles Clay and C. C. Lee, concludes that uterine fibro-cysts are far more common in this country than in Europe.

In the "Report on the Progress of Gynæcology during the year 1875," in *Am. Jour. Obstetrics* for April, 1876, is a summary of recent literature and operations for large fibroids and fibro-cystic tumors of the uterus by gastro-hysterotomy. The operators were Thomas Keith, Edinburgh; C. H. F. Routh, London; Jas. R. Chadwich, Boston; W. G. Drake, Atlanta, Ga.; Theodore Billroth, of Vienna; E. Bockel, Robt. Barnes, London; and E. R. Peaslee and T. G. Thomas, of New York. Of eleven operations reported five resulted in recovery.

ATROPIÆ SULPHAS IN ACUTE MYRINGITIS AND OTITIS.

By A. N. ELLIS, M.D., Joliet, Illinois.

No one who has ever treated a case of acute inflammation of the ear need be reminded of the terrible sufferings of his patient, the importance of prompt action, as well as the limited means at his command of giving instant relief.

From the situation of the drum, as well as its peculiar anatomical construction, it is very liable to become affected.

Myringitis, as its name indicates, is an acute inflammation of the membrana tympani. It is not a very common disease, yet physicians meet with it occasionally. It is not confined to any class — all may have it, from the robust to the weakest. Traumatic myringitis is the result of some physical injury. I will refer to two cases of the kind before closing this paper.

The exciting causes of idiopathic myringitis are many. Exposure in damp inclement weather, strong cold winds, bathing in cold water, passing suddenly from the warm and close air of a crowded hall to the street, sleeping in a bed over which passes a current of cold air, etc., etc. Often no immediate cause can be discovered.

Acute myringitis often comes on very suddenly without any premonition whatever; suddenly the patient is aroused from sleep. And how he suffers! Were you to pass a dagger through him he could not suffer more acutely. The pain is almost unendurable. I have seen several cases where the patient became almost frantic. The pain soon extends to the surrounding parts — to the head, face, teeth, jaws, and more or less down the neck. The movements of the jaw in talking or chewing increase it. The auricle soon becomes affected; is exceedingly tender to the touch. The hearing is dull, often lost; there is a sense of fullness and pressure. *Tinnitus aurium* supervenes, and is very annoying. *Autophonia* is a very troublesome subjective symptom.

Objective symptoms.—The objective symptoms, though not many, are very characteristic. The trouble is confined to the drum. A congestion of the membrane is observable. The vessels along the handle of the malleus are injected; the individual vessels are lost in the general redness; the cone of light is obscured. The surface of the membrane may appear convex externally, and has a dark, red, smooth flesh color. The line of union between the skin and membrane is entirely obliterated. After the first few days of agonizing pain and annoying *tinnitus aurium*, an abscess often forms in the membrana tympani, and perforation takes place, followed at once by suppuration. Untreated, the otorrhœa is followed by a long train of evils.

Take in the anatomy of the region at a glance, and what do we find? The lining of the external auditory canal functionates anteriorly as common integument, posteriorly as mucous membrane. The roof of the cavity is thin. Examine it in the skeleton, and you will find it so fragile that it is almost translucent. Lying immediately upon it are the membranes of the brain. Under the floor of the cavity is the jugular vein; anteriorly is found the largest artery of the head — the internal carotid — with the venous sinus in close proximity. These are separated from the cavity of the middle ear by very delicate lamellæ. The inner or labyrinth wall offers but slight resistance to the transition of the inflammation to the facial nerve, fenestrae and internal ear. Who will say that an unchecked inflammation and discharge in this important region is not a dangerous thing? And yet who has not heard physicians give their patients such advice as this: "Let it alone; you will outgrow it. It is dangerous to check a flow from the ear." Can anything be more unreasonable? Is disease safer than health? Otorrhœa *does not get well* as a rule without treatment!

Untreated, the disease soon extends to the neighboring parts, often resulting in otitis externa and interna; fungus growths springing from the cavity of the middle ear; anchylosis of the stapes; closure of the eustachian tube; deafness; caries of the temporal bone, cerebral meningitis! Only the unfortunate who have suffered from these things can fully realize their dire results. Only he who has day after day, week after week, and month after month battled with these troublesome afflictions can estimate the amount of time, patience and skill necessary to bring them to a favorable termination.

Having often witnessed the happy effects of the active principle of belladonna in painful affections of the eye, I was led to use it in the treatment of the ear where an anodyne was demanded.

About six years ago I was called to see a man employed at the building of the iron railroad bridge across the Missouri at Fort Leavenworth. He complained of great pain in his left ear. It had come on suddenly while he was laboring in one

of those iron caissons where the pressure of the air was great. The diagnosis was easy, showing a case of traumatic myringitis. Placing the patient in bed, a few drops of the atropine solution (atropiæ sulph. grs. iv., ad aquæ ʒ i,) were instilled into the ear. Six leeches were applied to the mastoid process, six more in front of the meatus externus. He was discharged on the second day cured.

About four years ago, at Fort Craig, New Mexico, a soldier while standing near a cannon which was being fired was taken with great pain in his right ear. I was absent from the post at the time, and did not see him for some hours. He was lying in the hospital, and complained of great suffering. Blood was seen issuing from the affected ear. Carefully syringing the canal, illumination showed fracture of the malleus. Acute myringitis supervened at once. He was treated with the atropine solution. The artificial leech was used both before and immediately behind the meatus extermus, and about four ounces of blood taken. The results were all that could be desired.

Since that time I have used the atropia in about one dozen cases, and with gratifying success. The medicine should always be warmed slightly by dipping the bottle in warm water before using. Conjoined with the use of leeches, the recumbent position, perfect rest, and the careful exclusion of all exciting causes, I have not seen a case where the remedy failed.

CHICAGO AND OTHER AMERICAN CITIES would do well to establish a system of hospital telegraphy similar to that which has recently proved useful in Paris. All the hospitals and dispensaries are placed in telegraphic communication with a central bureau, where admissions to each institution are obtainable. Thus, without delay, without the often painful and sometimes dangerous journeyings hither and thither, of patients in search of shelter and treatment, information can speedily be obtained upon all requisite points.

Chicago, in particular, separated as its three grand divisions are, would offer great facilities of this character, if a bureau of hospital telegraphy were located in its business center.

THE SILK WORM EPIDEMIC, PEBRINE, AFTER PASTEUR, WITH SOME REFLECTIONS REGARDING THE ANALOGY OF THIS DISORDER TO CERTAIN DISEASES OF THE HUMAN SUBJECT.

By JOHN BARTLETT, M.D.

(A Paper read before the Chicago Medical Society, Nov. 20, 1876.)*

In 1849 the silk crop of France, then estimated at 325,000,000 lbs., in a great measure failed, because of a disease, the pebrine, epidemic among the silk worms. This failure, growing year by year more serious, induced the French government in 1865 to assign the task of determining the nature of, and remedy for, pebrine, to the distinguished investigator Pasteur. In 1870 appeared the remarkable monograph of this scientist entitled "Etudes sur la Maladie des Vers à Soie," a synopsis of which forms the basis of this paper.

The pebrine is a contagious, infectious and hereditary disease, the cause being the introduction into the system of the worm of a psorospermoid cell, and the growth and development of this in the larva, pupa, moth or egg, leading finally to the destruction of the organism upon which it preys. The name *pebrine*, signifying pepper, has reference to one of the most palpable symptoms of the disease — the discoloration of the skin by numerous black spots or points, suggestive of the insect's having been dusted with pepper.

The *symptoms* as occuring in the worm, are loss of appetite and vigor, and failure of nutrition, as observed in stunted growth. The spots appear primarily on the head and neck as very minute specks; at first yellow, then brown and black. Meanwhile the primitive yellow discoloration invades the neighboring tissues as an areola of the dark spot. Sometimes death results before the period of cocooning arrives; in other cases an imperfect cocoon is formed, or the insect, day after day, makes the to and fro motion of the head, neck and body, as in the act of spinning, no silk meanwhile issuing from the

* Condensed by the Author for this Journal.

silk duct, and the worm finally dying without a covering. The cocoons of pebrined worms are feeble in silk, and this is of a poor quality. The chrysalis may die, or if the disease be mild, it may develop a moth, which may or may not be able to pierce the cocoon and emerge. The moth, if only slightly affected, may present no evidences of disease in appearance, action or function, or such evidence may be manifest in sluggishness of movement, inability to copulate and to lay. When the disease in the miller is severe, it is revealed by striking symptoms; one of these is a dark gangrenous appearance of the posterior half of the body, the other a shrivelled œdematous and ecchymosed condition of the wings. The eggs of badly infected caterpillers are sometimes sterile; if they hatch, worms are produced which speedily perish of pebrine of a ten fold more virulent form than that which affected their ascendants. As the disease is eminently contagious, hereditary and fatal, the havoc made by it would soon prove annihilating in any districts not supplied with healthy stock from abroad.

With the *cause* of the disease, Pasteur associated a brilliant ovoid corpuscle, first noticed in the bodies of pebrined worms by Cornalia, but regarded by him as accidental. Most careful and varied experiments conducted by Pasteur demonstrated that there was no pebrine without this corpuscle, and no corpuscle without pebrine, and that the disease could be produced at will by introducing these germ cells into the bodies of healthy worms. In infected broods, the corpuscles were found in great abundance in all the tissues and fluids of the worms, chrysalides and moths. They existed in the eggs, and were found in large numbers in the litters, and in the dust of the worm houses.

Morbid Anatomy. The intestinal walls were infiltrated with corpuscles; in the skin, in the cellular tissue underlying the pebrined spots, they existed as masses. The silk glands were densely packed with them, so that a section presented a porcelained appearance. This occupation of the glands by the germ cells led at first to the exclusion of their proper secretion and finally to the complete destruction of the organ. The

same was true of the malpighian tubes. The blood of the insect teemed with corpuscles — in short, the aggregation of the disease-cell in all the tissues of the worm ceased only with the destructive occupation of them. In the pupa and moth, substantially the same appearances were presented; in all the tissues a replacement of proper structure by the formed material of the disease-cell had to a great extent occurred. In the egg the corpuscles could be detected; and if numerous, the integrity of the ovum was destroyed.

The Cell. Upon proceeding to the study of the corpuscle to which reference has been made, Pasteur could at first discover no way in which the multiplication of it was accomplished. Ultimately he learned that this corpuscle seen by Cornalia, and so conspicuous in worms dead of pebrine, was inactive, effete. It was not the living cell occasioning the disease, but only the formed material of such cell. That it was an effete organism incapaple of reproduction, or of inoculating pebrine, was fully established by unsuccessful attempts to inoculate worms with the old dust of infected breeding houses, with the debris of worms one year dead, and with corpuscles washed from the surface of eggs known to be corpuscular.

Pasteur subsequently discovered the young cellule from which through varied changes the adult corpuscle sprang. These cellules when just detectable seemed to have two forms, both very small, pale and indistinct, at first homogeneous and finally exhibiting vacuoles, and contained nucleated granules, which, after splitting into lesser segments developed into corpuscles. In their long diameters, the disease-cells measured one ten-thousandth of an inch.

Of the natural history of the noxious corpuscle, its nidus or habitat, nothing more is known than that it was first observed by Leydig in 1853, in the fluids and tissues of the cochineal insect, of spiders and crawfish. Where it more naturally belongs, and what causes may lead to its more frequent appearance in silk worms, are alike unknown.

The development and growth of the corpuscle in the worm was studied by poisoning a brood by sprinkling a mixture obtained by triturating a corpuscular moth in a mortar with a

little water. On the fifth or sixth day of the poisoning, cellules began to appear in the intestinal walls, remaining isolated therein for five or six days and finally aggregating into masses in all of the organs. The ingested corpuscles soon manifested their effects on the skin. Two or three days after the appearance of the cellules in the walls of the intestines, and before they were elsewhere discoverable, spots appeared on the integument, at first very minute, but becoming quite distinct on the tenth or twelfth day of infection. The appearance of these spots prior to the general invasion of the skin, was considered by Pasteur as remarkable.

The disease is *inoculable*. By mixing corpuscular worm tissue with a little water, and inoculating sound insects with the virus, poisoning results. Accidental inoculation is one of the modes in which the disease is conveyed. Pasteur noted on the bodies of worms very minute wounds, some of these were incised, others were more in the form of ulcers resembling finally the true pebrine spot. Upon careful observation he noted that the simple wounds so generally seen on the skin were inflicted by the claws of the insects as they crowded one over the other in their baskets. The spots having the appearance of ulcerations, were inoculated incisions. The hooks with which the fore feet of the insect are provided, have on their inferior surface a concavity. Washing out these minute receptacles for dirt, and placing the contents under the microscope, pebrine cells were detected. Numerous facts demonstrate the disease to be *infectious*. Thus, if in a contaminated worm house an education of healthy insects be placed under ordinary circumstances, it will be infected sooner or later. The disease in such instances may be carried from the sick to the healthy by the person of the attendant, or the cell may be conveyed by the air. For the most part under the circumstances of exposure just cited, Pasteur is of the opinion that the disease is conveyed by the contact of attendants. For experiment shows that a healthy education may be reared near an unhealthy one and remain pure, or nearly so, provided that the greatest pains be taken that no direct con-

vection of contagious particles shall take place between the infected and the well.

It would seem that the distances to which the disease may be carried by the air from a contaminated education is less than might be supposed, it being practically possible to preserve worms for industrial purpose free enough from pebrine, when separated from moderate foci of infection 30 yards. Pasteur thinks the instances must be rare in which the disease is extensively communicated by leaves holding on their surfaces the pebrine corpuscles. Cases in which such a source of contagion has been thought to exist, could more naturally be referred to convection through human intercourse. And yet, as a single corpuscle is sufficient to ingraft the disease, Pasteur is of the opinion that a distance of 30 miles should, when possible, be placed between badly infected districts and worm houses which it is proposed to keep pure.

The *heredity* of the disease is as well established as its contagion and infection. Numerous experiments have demonstrated that in the very great majority of cases, the eggs, the progenitor of which, whether in the larva, chrysalis or butterfly state, contained corpuscles, would give issue to infected worms. Sometimes a moth, containing comparatively few corpuscles, may have begotten eggs, some or all of which are free from corpuscles. In such a chrysalis and miller, the tissues of which are but sparsely infused with corpuscles, it may be supposed that by chance no pebrine cell had found its nidus in the ovary. In the eggs of unhealthy worms, corpuscles, in all stages of growth, were found in great numbers. Sometimes, however, in the ovum, as in other tissues, in the earliest periods of the existence of the pebrine cells, they were too small and pale to be visible, and it was in some instances only after considerable time had elapsed, sufficient to allow of the growth of the cells to visibility, that they could be detected. Pasteur inclined to believe that the diseased cell was inherited from the female only. Copulation of a healthy female with an infected male did not, in his limited experiments, result in infection of the eggs, and yet, feeling that his observations were too few to decide the question of transmission through

the male, he recommends, in his process for procuring perfect grain, that lots impregnated by very corpuscular males should be avoided.

Numerous carefully conducted experiments demonstrated that the cellule, at least when exposed for some time to temperature, moisture, etc., lost its vitality. Thus it was impossible to inoculate pebrine from corpusclar matter taken from the infected worms or moths of the previous season, or from the last year's dust of the breeding houses. In fact, an experiment showed that inoculation was unsuccessful when performed with germs from a corpuscular worm which had died six weeks before, and had dried in the air. On the contrary, infection was successfully effected when the virus was obtained from worms dead a few weeks, and not mummified.

Enclosed in the protecting shell of the egg, cellules preserve their infecting power from year to year, and there is reason to believe that germs encased within the crust of the chrysalis have retained their potency as long as four years. It has been stated that during the lethargic condition of the worm at the moultings it was feeble and especially liable to disease. During these periods the development and growth of the germ-cells were noticed to be particularly active. A high temperature seemed also to favor their increase.

It will be well here to comment on two erroneous impressions of many sericulturists; the one that the pebrine is not contagious, the other that it is local, pertaining to certain districts, as infected centers. The gentle, gradual advance of the malady, so that an infected worm may yet form its chrysalis, and this its moth, and this beget its progeny before the disease breaks out in virulence, has led observers, overlooking the steps by which the real cause of the infection has advanced, to regard the actual outbreak of the disorder as an epizooty, as the initial period of the attack. And in the absence of any apparent source of immediate contagion, the existence of infection is denied, and the conclusion is reached that the disease can only be referred to an all pervading miasm.

It has been stated that worm tissue containing cellules ex-

posed to atmospheric changes for as long a period as six weeks, lost its power of infecting with pebrine. It is a remarkable fact, however, that it is still because of the contained mature corpuscle, highly poisonous, and if it be introduced into the alimentary canal of worms, however old it may have become, it gives rise to a disease fatal within two or three days. This disease, long known to silk growers as *flacherie*, appears to be due to the development of vibrios in the intestinal canal, begetting fermentation in the ingested food, and destroying the worm by inanition.

The *diagnosis* of pebrine is easy and certain, the only essential evidence of the existence of the disease is the presence of its corpuscle; cells very young and in the nascent state are probably invisible to the highest powers. At the very early period of the disease, before the germ cells are well developed, their existence might be overlooked; it is desirable therefore to allow time for their growth before a diagnosis is made. Thus, in the newly formed chrysalis, of the very slightly infected worm, no corpuscles may be found; but in one week or a fortnight they may be plainly seen. And in the freshly laid eggs no signs of disease may be detected, but in a few weeks or months the grain may be found to be very corpuscular. The adult corpuscle, though not the cause of disease, is the sign of the probable presence of that cause; it may therefore be depended upon as a means of diagnosis.

TREATMENT.—Of the various remedies tried for the prevention or cure of the pebrine, no one was in any way efficacious. These facts only are worthy of record: Water saturated with carbolic acid kills the germs, but fumigation with this acid was worse than useless. Chlorine fumigations prove destructive to the cells; but it is not stated whether the presence of chlorine in sufficient quantity for this result is compatible with the life of the worm itself.

Hygiene. The hygiene of this disease is as satisfactory as the treatment is discouraging. It has reference to the surroundings of the worms, and more paticularly to their parentage.

It is of the first importance that the parentage should be

perfect, or nearly so. Before the investigations of Pasteur it was the practice of silk raisers to select the best appearing cocoons from which to obtain the butterfly for the deposit of the eggs, as the seed for the next harvest. Pasteur recommended that a large number of female moths, say 50 or 100, taken from lots which it is desired to use for grain, should be carefully examined, and if they be free from corpuscles, the eggs produced by broods from which they have been selected may be used with every confidence of a successful result. His plan is to take one or two millers at a time, of those to be tested, and triturate them in a mortar containing a few drops of water. Portions of the resulting mass are subjected to the microscope and the presence or absence of corpuscles determined. When it is desirable to be very particular, both the female and male progenitors of the eggs in question are submitted to examination in the manner stated, and if a single corpuscle be discovered their eggs are rejected. On the contrary, if the scarcity of seed grain is great, or no millers perfectly free from corpuscles can be had, the product of butterflies, ten per cent. of which are moderately corpuscular, may be used for reproduction. For experience has shown that when the infection of the ascendants is not marked it is possible for the eggs to produce worms sufficiently healthy for industrial purposes, because, in cases of slight infection of the parents, such is the slowness of development of the corpuscle, that a perfect cocoon may be formed before the destructive power of the cell has accumulated.

Having secured eggs free from germs of disease, it is essential to preserve the worms hatched therefrom from all infecting influences. The corpuscles, we have seen, may be conveyed to sound worms by the air from neighboring breeding houses, or by the attendant upon infected broods. The healthy lot then should be kept at a distance from the infected one, and there should be no communication by person or utensil between them.

As the corpuscles abound in the dejections of the worms, these should be frequently removed and destroyed, and care should be taken especially that the leaves fed to the worms

be not soiled by the evacuations. Over crowding should be avoided for obvious reasons, namely: the greater the multitude of worms the greater is the chance of the presence of corpuscles, and the greater is the probability that the diseased germs may in some way be received in some one member of the same basket or worm house by ingestion or inoculation. Inasmuch as the corpuscles of the preceding year, resting as dust on the tables, floors, etc., of the breeding rooms, though inert as to pebrine, are yet poisonous, it is essential that in the beginning of the season the houses should be thoroughly cleansed and disinfected, and that thereafter dust should be removed regularly, and that by a mopping rather than a sweeping process.

REMARKS.—The pebrine in its symptoms and termination finds no exact analogue in disorders of man, and yet its resemblance to several diseases would occur to all. In its fatality, heredity, and in its capability of inoculation, as well as in the manner in which it invades the tissues, as the silk glands, it is suggestive of phthisis. Such a comparison implies that the gray granulations of Bayle are masses of cells, and formed material of cells.

In its inoculability, its gravity, its transmissibility from mother to offspring, as also in its deposits and surface manifestations, it resembles syphilis.

The plague, with its contagion, infection and deadly character, with its adventitious deposits, its carbuncles, gangrenous patches, petechial ecchymoses and serous effusions, would appear much to resemble the devasting pebrine of France.

In several of its features the history of pebrine suggests the possibility that the poison of small pox, typhoid fever and glanders may be found to depend upon the invasion of the human tissues by a cell growth heterologous and parasitic.

In regard to tubercle, while its main forms are but an aggregation of corpuscles, or as Dr. Fox says, "a growth of densely massed small cells," even more like those of pebrine than the growths of syphilis, yet, in view of the recent pathology which tends to remove from the tubercle all specific characters,

and to class its products with those of inflammation of lym phatic tissue, some may deem the comparison of it to a disease produced by the growth of a foreign cell in the tissues hardly allowable. But I need hardly remind gentlemen who have read the discussion on tubercle before the Pathological Society of London a few years since, by such men as Wilson Fox, Beale, Bastian, and their colleagues, that the question of the nature of tubercle is yet *sub judice*. Allow me here to cite some expressions of Beale in the discussion referred to. He said: "I cannot think that tubercle corpuscle has anything to do with the lymph corpuscle or with the cells of adenoid tissue. Nor do I understand how any process that may be denominated irritation can convert one of these lymphatic corpuscles into tubercle. It seems to me that tubercle consists of living matter, having the power of multiplication, and differing greatly from any cell in the body. The tubercle corpuscle is a special thing."

In his book on disease germs, Dr. Beale writes: "There is reason to think that particles of living, growing tubercle exist sufficiently minute to be supported by the atmosphere, and carried long distances. There are many facts, considered by some sufficiently conclusive, to justify the opinion that tubercular disease of the lung is, at least in some instances, contagious. If a particle of fluid holding living tubercle germs in suspension were introduced by inoculation into a weakly organism, the disease might be produced. From collections of tubercles bioplasts may be readily detached, and might be carried to distant parts and grow there." I may add in connection with this comparison of pebrine and phthisis two interesting statements as to the propagation of the latter disease. Lænnec states that having lacerated his hand with a saw while examining a body dead of phthisis, an inoculation followed which resulted in the growth of a tubercular nodule at the place of injury, which was enucleated. Dr. Jacobi reports that his dog, having been allowed to eat the sputa of a phthisical patient, died presently of consumption. I desire here to suggest that the true tubercle cell may first exist, like the pebrine cell, as a nascent, almost or quite invisible, cellule, then as a matured

cell, and finally, having undergone tyrosis, as a yellow tubercle. The supposition that tubercle cellules may exist and grow at the expense and to the injury of the lung, without appearing as a collection of mature formed material corpuscles, would explain the view insisted on by Niemeyer, that patients die of phthisis in whose lungs no tubercles are discoverable.

In this connection it is interesting to bear in mind the following statement of Dr. Crisp: "He had met with tubercle in more than one hundred different species of animals, quadrupeds, birds and reptiles. In 1854 there was a great mortality among the sparrows of Regent's Park gardens. He examined many of these, and found the livers, spleens and intestines tuberculous; these birds fed with a large number of tuberculous animals. Reptiles in confinement are very subject to tubercle in the liver, intestines, spleens and lungs; large masses often block up the alimentary canal. He had observed four stages of the disease: the first the hyperæmic, congestive or inflammatory (query, the stage of growth of cellules?); secondly, the deposit of cell growth; the third that of softening; fourth, that of cretaceous change. Vegetable feeders, as birds, are more liable to tubercle. It is hereditary, and he believed, in the lower animals contagious."

The resemblance of pebrine in its pathological histology to syphilis is quite close. The induration of chancre and the gummata of syphilis are but infiltrations of connective tissue by small cells, not dissimilar to those of pebrine, and these cells readily admitted to be heterologous and specific.

The phenomena of contagion and infection, as observed in the silk worm epidemic, are so similar to those of diseases in higher animals that it is hardly necessary to comment upon them. Two facts, however, invite our attention: one, that while under exposure the germ cell loses its vitality; under other conditions of protection it retains it for years, and possibly indefinitely. The other fact, as remarkable as suggestive, is that the mature old cells of pebrine, while they are incapable when inoculated or ingested of reproducing the original disorder, yet beget another most destructive, contagious and infectious distemper. Can it be possible that in the human

subject a disease as the scarlet fever, or chancre, may have for its cause a germ, which when modified by age or other circumstance, may produce another form of illness, as the diphtheria or chancroid? Yet another item of interest may be found in the discovery of Pasteur, that silk worm moths preserved in museums since 1838 contained pebrine corpuscles, not to be distinguished by the sight from recent ones. What possibilities in the way of storing up of germs of contagion does this not suggest! As the living seed of grain may be preserved in the mummies of Egypt for thousands of years, so may it be possible that suitable containers may serve, like the box of Pandora, to transmit distempers from generation to generation.

The detection of the cell germ in the egg as the determining cause of disease in the descendant, is explanatory of the mode of transmission of ailments from parent to offspring. The fact that some moths not very corpuscular beget healthy worms is also of interest, as confirming the observation that a syphilitic mother *may* give birth to a healthy child. According to Pasteur's observations, when ten per cent. of the moths of a given lot of worms were corpuscular, not more than two per cent. of the eggs of this lot would prove to have been contaminated.

I call attention to the excellent illustration of incubation which the history of the pebrine cell furnishes. Very slowly the germ of disease increases to such numbers as to interfere with the functions of the insect. It is noteworthy also that the rate at which this increase occurs is affected by temperature, and by certain favoring states of the worm. Multiplication being more rapid at high temperatures, and during those periods of the life of the insect when it is most feeble.

The phenomenon of latency is also admirably illustrated. Incased in the shell of the egg, and probably also in the sheath of the chrysalis, the corpuscle may lie dormant in the tissues, till an event, as the full development of the larva or pupa, excites it into activity.

The cell germ is regarded by all who have studied it as vegetable. We see virus from one animal inducing disease, as

vaccinia, when inoculated into another. In this instance the contagioning atom is probably an animal structure. Leydig has discovered in certain insects, other than the silk worm, cells apparently identical with the pebrine corpuscle. These, the discoverer believes, belong to the normal cell-structure of those insects. Now may it not be possible that the corpuscle so noxious to the Bombyx Mori may be a healthy cell of the spider, cochineal insect, or crawfish? In other words, may not a cellule normal to one organization prove the source of disease to an animal of a different class, by preying as a parasite upon its tissues? And may not such a possibility serve to explain the production in one animal of a tuberculoid disease simply by the inoculation of the products of inflammation from another animal?

I desire particularly to invite your notice to the statement of Pasteur, that in the very early origin of the cell they are invisible, and when first seen they are very pale, indefinite in outline, and barely distinguishable. Leydig confirms this observation, and it is exactly in accordance with my own experience in the study of the extremely minute atom associated, as I believe, with ague. We may adduce from this fact a lesson in reference to *post-mortem* diagnosis, namely, that tissues may be invaded with germ cells of disease in such numbers as probably to destroy life, and yet be invisible to very high powers of the microscope. In view of such a possibility, it is wise to subject specimens to examination at different intervals of time, so as to allow opportunity for the growth of any infinitely minute disease cells to visibility. And finally, an abnormal cell or atom discovered in a tissue is not to be regarded as having been always inert, because experiment shows it to be, in the state in which it was found, incompetent to produce disease. For the cell so experimented with may, like the mature pebrine cells, be no longer capable of reproduction, and in the phase of life in which it was found prove entirely inactive; whereas, at an earlier period, it may have been capable of the most destructive mischief. In short, the pathologist must not mistake formed material for the living

cell, lest, finding the former inert, he may erroneously deny potency to the latter.

The physician will do well to note that the efficiency of measures taken by Pasteur to prevent infection, namely, the removal of dead worms, the clearing away and destruction of the dejections. The avoidance of too close proximity to diseased localities, and the prevention of indirect communication between the sick and well, cannot but add some corroboration to the germ theory of such diseases as the cholera, for the prevention of which experience has taught the wisdom of exactly similar hygienic rules.

Observe also the direction to protect the food of the worm from the contagioning atom. The fact of the entrance of the multiplying pebrine cell through the alimentary canal may tend to deepen the growing impression that milk may be a vehicle of contagion.

A sarcastic reference of Cornalia to the "copious and useless pharmacopœia of the silk worm as extensive as that of man," cannot but remind the practitioner of the random application of means so often made to diseases of the human subject, the causes of which are probably as little within the reach of such medication as was the cell of pebrine to the multiform remedies vainly prescribed against it.

THE MORTALITY OF SURGICAL OPERATIONS IN THE UPPER LAKE STATES, COMPARED WITH THAT OF OTHER REGIONS.

By EDMUND ANDREWS, A.M., M.D.,

Professor of Principles and Practice of Surgery in Chicago Medical College,

Assisted by Thos. B. Lacey, M.D.,

Assistant Surgeon in the National Soldiers' Home.

(Concluded.)

OVARIOTOMY.

My records of this operation are mostly from Prof. Byford, and Dr. Dunlap, of Springfield, Ohio.

TABLE XVI.

CASES OF OVARIOTOMY PERFORMED BY PROF. W. H. BYFORD.

My first twenty-five operations were performed before the Great Fire, and the notes of them were burned up; the most I can say of them was that the proportion of recoveries was 66⅔ per cent. One of these cases was in the Hospital for Women and Children, and recovered without any bad symptoms. My next thirteen cases are as follows:

Age.	DURATION OF TUMOR.	SIZE AND DESCRIPTION OF TUMOR.	MARRI'D OR SINGLE.	GENERAL CONDITION BEFORE OPERATION.	MODE OR PECULIARITY OF OPERATION.	RESULT.	TIME TO DEATH OR RECOVERY.	PRACTICE.
36	3 years	Wt. 37 lbs. Multilocular. Right ovary. Contents of main sac thick as jelly	Married.	Greatly impaired	Secured pedicle with ligature left in wound	Recovered.	3 weeks	Private
31	14 months.	Multilocular. 28 lbs.	Married.	Greatly impaired	Right ovary seat of tumor; left diseased and remov'd	Recovered.	6 weeks	
32	6 years	Both ovaries diseased alike. Two ovarian tumors weighing 20 lbs	Single.	Greatly impaired	Both ovaries removed	Recovered.	2 months	Hospit.
42	7 months	Two large tumors, one springing from each ovary. Weight, 28 lbs.	Single.	Greatly impaired	Both ovaries removed	Died	21 days	Private
31	9 months	Dermoid tumor, weighing 25 lbs. Left ovary.	Married.	Health poor		Recovered.	3 weeks	Private
33	1 year	Multilocular of right ovary. Left so diseased as to require removal. Weight, 37 lbs.	Married.	Health good		Recovered.	5 weeks	
23	1 year	Multilocular. 34 lbs.	Single.	V ry much impar		Recovered.	3 weeks	
36	7 years	Multilocular. 28 lbs.	Married.	Very much impar		Died	14 days	
18	18 months.	Dermoid cyst. 27 lbs	Single.	Health good		Recovered.	2 weeks	
24	9 years	Multilocular. 30 lbs.	Single.	Very much impar		Recovered.	2 months	
24	17 months.	Multilocular. 15 lbs.	Married.	Very much impar		Recovered.	2 weeks	
43	11 months.	Dermoid. 30 lbs.	Married.	Good condition		Recovered.	4 weeks	
27	3 years	Multilocular. 45 lbs.	Married.	Emaciated		Recovered.	6 weeks	

In addition to the above I have accounts of 118 cases, of which 34 died, operated on by the following surgeons, viz.: Dr. Dunlap, of Springfield, Ohio, and Drs. E. Andrews, J. Andrews, D. Brainard, Brauns, A. Fisher, J. M. Hutchinson, A. R. Jackson and E. O. F. Roler.

RECAPITULATION.

AUTHORITIES.	CASES.	DIED.
Byford's operations before the great fire (notes burned up)	25	8
Byford's operations since	13	2
Dunlap's operations	107	26
Other Lake State operators	11	8
Total Lake States cases	156	44

Mortality in the Lake States, 28 per cent.

OVARIOTOMY ABROAD.

AUTHORITIES.	CASES.	DIED.
W. L. Atlee, Philadelphia	350	105
Prof. Peaslee, N. Y.	28	9
Dr. G. Kimball, of Lowell, Mass.	203	67
Spencer Wells, of England, 1876	500	127
Dr. Clay, of Eng., quoted in Peaslee on Ov. Tum., p. 248	250	68
Dr. Keith of Scotland, " " " "	136	25
Thomas " " " "	27	9
Bradford " " " "	30	3
Dr. Cheever, of Boston	4	4
Bryant (Trans. Obst. Soc., London, 1865)	10	4
Tyler Smith, " " "	20	5
St. Thomas' Hosp.	3	1
St. Bartholomew's Hosp	23	17
St. George's Hosp.	5	4
Grimsdale, quoted Arch. klin. Chir. Bd. 8, S. 813	10	3
Cases in Germany, Russia, Switzerland, Italy, Spain, Australia and India, Arch. klin. Chir. Bd. 8	35	15
K. k. allg. Krankenhaus, Wien	25	17
Roosevelt Hosp.	1	1
Totals	1660	484

Mortality, 29 per cent.

GENERAL SUMMARY.

	CASES.	DIED.	PER CENT. MORTLI'Y.
Lake States	156	44	28
Abroad	1660	484	29

OPINIONS OF AUTHORS.

In the treatment of ovarian cysts two operations have to be considered, viz.: Tapping and ovariotomy. On these points Prof. W. H. Byford, of Chicago, has favored me with the following opinions:

"TAPPING."

"Tapping an ovarian tumor is always attended with danger, and ought not to be resorted to without important reasons. This operation is especially hazardous in the polycystic variety.

"It is allowable in monocysts, when the diagnosis is doubtful, for the purpose of deciding the nature of the fluctuating mass.

"When the collection of fluid is very great and the patient in an exhausted condition, by evacuating it the patient will generally recruit under proper treatment. She will then bear ovariotomy better.

"If for any reason ovariotomy is impracticable, we may often palliate the suffering and prolong the life of the patient by tapping one or more times, as the case may require.

"Again, there is another condition, not very rare, in which tapping may be relied upon as curative, *i. e.*, when the vitality of the tumor is decreasing. This condition is more frequently observed in patients somewhat advanced in years, and is recognizable by what I would denominate tentative tapping, or the history of the case connected with this operation. If after several evacuations the length of time in which the tumor fills up is increasing, we may expect by repetition of the operations the vitality of the growth will be exhausted and eventually will not fill again. I have seen two remark-

able instances of this kind, in which the patients recovered after they had been tapped a number of times."

"INDICATIONS FOR OVARIOTOMY."

"We are justified in the performance of ovariotomy only when the patient's health is becoming impaired in consequence of the presence of the tumor. This will occur when it is large enough to press mischievously upon the vital organs. Of course other indications, under special circumstances, may determine the propriety of the operation, but it would not be expedient here to enter upon the consideration of them, as it would require too much space.

"Ovariotomy should not be thought of until the diagnosis is so clearly demonstrated as to leave no doubt in the mind of the operator."

Mr. Bryant, surgeon to Guy's hospital, thinks that tapping should be omitted in the majority of cases, unless needed for the purpose of diagnosis. Spencer Wells, however, whose vast experience gives weight to his opinion, thinks that previous tapping does not materially affect the safety of a subsequent ovariotomy.

Mr. Bryant thinks that ovariotomy should be performed in almost all cases of benign polycystic ovarian tumor, except when the patient's health is so broken down as to render it nearly certain that she will not bear the operation. As to the time to be selected he thinks ovariotomy should not be thought of until the health of the patient begins to suffer seriously from the growth of the tumor.

Jonathan Hutchinson discourages mere tapping, but speaks favorably of injections of iodine in the few unilocular cases. He favors ovariotomy strongly in proper cases, and reckons the risk at about 33 per cent.

Spencer Wells, and all the other great ovariotomists, of course favor the operation in proper cases, and it is scarcely worth while to quote against their decisive authority the crude objections of less experienced men in the earlier years of the discussion of this subject.

CONCLUSIONS.

The mortality of this operation, in the Lake States, has been 28 per cent. for all cases collected by me, but only 26 per cent. in the hands of Prof. Byford. Abroad the mortality has been 29 per cent., but grows somewhat less as skill and experience accumulate. The operation has been safer in Great Britain than on the continent of Europe.

It is a grave operation and never to be undertaken except after full investigation of each case, but there is no doubt that it is firmly established as one of the great operations of surgery. As remarked by Prof. Byford, it ought not to be performed until the patient's health begins to suffer from the pressure of the tumor, and a very careful investigation of all the conditions of the case should be made before decision; and then, if it is found that no insuperable obstacle exists, the operation is to be positively recommended, for after the tumor begins to interfere with the functions of vital organs, the short and miserable remnant of a life, without an operation, may rationally be risked for two chances out of three for a permanent cure.

With regard to tapping the tumor, nothing better can be said than the judicious words of Prof. Byford, quoted above under the head of "Opinions of Authors."

TRANSFUSION.

This operation has been performed in the Lake States but few times, so far as I can learn. The records are very imperfect, but some interesting observations have been made. Prof. Freer and Prof. E. Andrews have transfused for hæmorrhage in eight or ten cases. Prof. Freer's cases were the most numerous of the two, and one of them was so greatly improved as to give the highest hopes of recovery, when the patient suddenly died with symptoms of embolism. None of the cases of either operator finally recovered. Dr. Hotz transfused one case of hæmorrhage with lamb's blood, with the result of saving the patient. Dr. Hotz, together with Dr. Prœgler and Dr. Wild, transfused, with lamb's blood, in eight cases of phthisis and anæmia. One was temporarily improved

and one died of the effects of the operation. Dr. Hotz is of the opinion that the operation should be limited to cases of recent hæmorrhage, but Prof. Freer is disposed to think that if Dr. H. had repeated the transfusion some of the failures might have been transformed into successes.

Prof. Freer has experimented largely on dogs, and from his observations concludes that the transfusion of defibrinated blood is the most successful plan.

Abroad the operation, if honestly quoted, has been more successful. Laudois gives 96 finished cases, of which only 31 died, being a mortality of 32 per cent.

The opinions of authors on this operation are generally expressed in rather vague terms, but for the most part they favor it for desperate hæmorrhage.

Gross, Freer, Ashurst, Moore, of England, Blundell and others favor it decidedly. Freer and Ashurst prefer defibrinated blood.

CONCLUSIONS.

The literature of transfusion is still in a very crude condition. My opinion is, however, that in cases of dangerous hæmorrhage it is an important resource, and that it is best performed with defibrinated blood. I think the ill success which has attended it in the Lake States is due to the reluctance of surgeons to undertake it promptly, and to the consequent fact that the patients were generally too far gone for recovery.

MISCELLANEOUS OPERATIONS IN THE LAKE STATES.

The following list contains a number of scattered cases recorded by myself and others worthy, perhaps, of notice, but not numerous enough to be tabulated in detail:

OPERATIONS.	CASES.	FAILED	DIED.
Trephining for frac of skull	10	0	3
" for insanity after fracture	2	1	1
" for idiopathic insanity	2	2	0
" for epilepsy (permanancy of successes not known)	7	1	1
Ligation of common carotid artery for traumatic hæmorrhage	1	0	0
Ligation com. carotid for vascular tumor of orbit	1	0	0
Ligation of brachial art. for traumatic aneurism	1	0	0
Ligation of common iliac art. for aneurism of aorta	1	0	1
Ligation ext. iliac for traumatic aneurism	1	0	0
Ligation of ext. iliac for aneurism of femeral	1	0	0
Ligation of femeral for wounds	3	0	0
" " " aneurism	2	1	0
Compression of arteries for aneurism*	6	4	
Stricture of uretha treated by internal section*	24	1	0
" " " divulsion*	15	2	0
" " " external perin sect.*	2	0	0
" " " gradual dilatation*	50	0	0
Operations for hæmorrhoids*	45	0	0
Forcible rupture of anchylosis†	8	3	1
Operations for ununited fracture*	24	1	0
Stretching sciatic nerve for neuralgia (Nussbaum's operation)	2	0	0
Neurotomy	8	0	0

* Records very imperfect.
† Three of the successes were imperfect.

For convenience of reference to those who wish to see at a glance what the experience of the world has been with regard to the principal operations, the following table is prepared:

TABLE XVII.

MORTALITY OF THE PRINCIPAL OPERATIONS.

CASES.	PER CENT. LAKE STATES.	PER CT. ABROAD.
Amputation at shoulder joint, primary		35
" " " second. and inter. comb.		48
" " " pathological		29
" " " average of all cases	30	39
" arm, primary	20	27
" " intermediary and second. combin.		36
" " pathological		20
" " average of all cases	11	35
" elbow joint, average of all cases		21
" forearm, primary		11
" " intermediary		23
" " secondary		16

TABLE XVII.— Continued.

Amputation at forearm, pathological		22
" " average of all cases	10	16
" wrist, primary		8
" " intermediary		14
" " secondary		20
" " pathological		7
" " average of all cases		18
" hip joint, primary		99
" " " intermediary		92
" " " secondary		65
" " " pathological		47
" " " average of all cases*	43	30
" upper 3d of thigh, primary	40	60
" " " " inter. and sec. comb'd		44
" " " " pathological		27
" middle " " primary		48
" " " " inter. and sec. comb'd		59
" " " " pathological		22
" lower " " primary	28	45
" " " " inter. and sec. comb'd		60
" " " " pathological		20
" average of all thigh cases	24	62
" knee joint, primary		48
" " " intermediary and sec. comb'd		49
" " " pathological		26
" " " details not stated		54
" leg, upper 3d, primary		36
" " " " intermed. and sec'y comb'd		47
" " " " pathological		31
" " " " average of all cases	36	37
" " middle " primary		45
" " " " intermed. and secondary		44
" " " " pathological†		6
" " " " average of all cases	25	32
" " lower " primary		37
" " " " intermed. and sec'y comb'd		29
" " " " pathological		16
" " average of all cases	13	
" " average of all times and locations	23	40
" ankle, Syme's		9
" " Pirogoff's	22	18
" foot, Chopart's		16
Resection, shoulder, primary		30
" " intermediary		46
" " intermed. and second. together		37
" " pathological		19
" " average of all cases		32
" elbow, primary		22
" " intermediary		35
" " intermed. and second. combined		28
" " secondary, alone		9
" " pathological		12
" wrist, average of all cases		19
" hip, primary		92
" " intermediary		91

* This per cent. in the Lake States was derived from only seven cases. It cannot be expected to continue so low in the future.

† Derived from forty-nine cases. Mortality accidentally low.

TABLE XVII.—Continued.

Resection, hip, intermed. and second. combined		71
" " secondary		85
" " pathological	42	46
" knee, all traumatic combined		85
" " pathological	37	29
" ankle, all traumatic combined		13
" " pathological	11	12
Herniotomy	24	49
Hernia, radical cure operations		4
Lithotomy, 1 to 5 years		7
" 5 to 11 years		4
" 11 to 16 years		11
" 16 to 20 years		14
" 20 to 30 years		13
" 30 to 38 years		9
" 38 to 48 years		17
" 48 to 58 years		21
" 58 to 70 years		27
" 70 to 80 years		32
" average under puberty		7
" " over "	38	19
" " all ages combined	23	16
Lithotrity		9
Tracheotomy and laryngotomy for diphtheria & croup,		
Under 2 years		100
2 to 3 years		73
3 to 4 years		68
4 to 5 years		76
5 to 6 years		65
6 to 7 years		55
7 to 8 years		76
8 to 14 years		58
All ages together	81	63
Tracheotomy and laryngotomy for œdema glottidis	25	26
" " for foreign bodies		25
Œsophagotomy		24
Ovariotomy	28	29
Transfusion for hæmorrhage		32
Ligation of the aorta		100
" common iliac artery		76
" internal " "		58
" external " "		43
" femoral " "		34
" profun. femoris "		62
" popliteal "		76
" arteries of leg and foot		50
" innominata artery		94
" common carotid "		45
" internal " "		12
" subclavian "		55
" axillary "		75
" brachial "		19
" radial and ulnar "		15
Trephining for fracture of cranium		50
" for epilepsy		58
Colotomy		44
Gastrotomy for stricture, foreign bodies, etc.		58
Extraction of loose cartilages from the knee		20

I have in this unusually prolonged article endeavored to give a condensed view of the statistics and opinions of the world, on every principal operation in surgery. It has been a work of immense labor, but yet a very necessary one, for the contradictions of authors and the very frequent hastiness and superficiality displayed in writings of recognized authority render it almost impossible for the practical surgeon to distinguish truth from error.

I return my thanks to those gentlemen who have contributed their cases for the Lake States lists, and their names will be found in the tables.

I regret that the great Chicago fire swept out of existence the records of several excellent surgeons, thus depriving me of the benefit of their extensive experience; but the cases which I did obtain have been carefully sifted and fairly represent the results of surgery in this region.

CHICAGO, No. 6 Sixteenth St., Dec. 1, 1876.

Correspondence.

SOLVENT FOR SALICYLIC ACID.

CLINTON, ILL., December, 1876.

Allow me to call your attention to the solvent alcohol for salicylic acid. The proportions are as follows:

Salicylic Acid, ...gr. 30.

Alcohol 95 per cent. .....gr. 49½ Bulk ʒ iss.

Mix. Will form a complete solution without chemical change in the above proportions. Add distilled water, gr. 60 Bulk ʒ i. It will re-crystalize the entire quantity in solution into an anhydrous mass. Weight, gr. 134—dry, 24 gr. It will readily dry on filtering paper exposed to the air, leaving the residue a beautiful needle crystal, very fine, but well defined under a high power. Other agents containing alcohol will make a solution for all practical purposes, as Spts. Lavender, Spts. Rosemary, etc.

Aqueous solutions must be studiously avoided as incompatible, while ammoniated agents are admissible with morphine and an alchoholic menstrum of opium.

Yours, D. W. EDMISTON, M.D.

THE CORN SWEAT.

I desire to call the attention of the profession to an old-fashioned, and partially forgotten remedial measure, known as the "corn sweat." In the eruptive, and other fevers, a thorough sweating or sweatings at the very inception of the disease oftentimes will have the effect to cut short the disease, or mitigate its severity. "Cures" where the "Turkish Bath" is administered, show a record in the management of fevers, that testifies abundantly to the efficiency of this plan of treatment. In private practice, this remedy is seldom given properly, and when not is discarded as worthless. The means generally used to bring about a profuse perspiration, are either insufficient, or so complicated or inconvenient as to be seldom brought into use. One of the means usually adopted, is packing in bedclothes and hot bottles or bricks. This is very good, but falls short in a majority of cases, of producing a decided effect. The process I am to describe is very simple. Have the apartment warm; boil fifteen ears of corn in a kettle. Warm five blankets and place them one above another on a bed. Put the patient, undressed, on the blankets and wrap two of them around him, not both at once, but one after the other.

Now quickly dry the boiling ears with a towel, place them all about the patient, and wrap the remaining three blankets one by one around him, well up under the chin. Adults and older children, should be kept in the sweat three-quarters of an hour to an hour. Children of three to six years, half an hour. After profuse perspiration, the whole or a part of the corn may be taken away, after which the blankets may be removed, one by one, at intervals of a few minutes. The last one should remain until the surface of the body is quite dry, after which the patient should be put into a warm bed.

I believe if this plan is strictly followed there is no danger of "taking cold." Care should be taken during the bath that the blankets be well wrapped around the neck. Patients will almost inevitably endeavor to get some air from this quarter. The bath as thus administered has been extremely useful in my hands. I had two cases of typhoid fever, one case of congestive chills, a number of cases of ordinary ague, two cases of pneumonia, two cases of dropsy, etc., that were benefitted by the "corn sweat."

FRANK ALLPORT, M.D.

Sycamore, Ill.

Book Reviews.

[NOTE.—All works reviewed in the pages of the CHICAGO MEDICAL JOURNAL AND EXAMINER may be found in the extensive stock of W. B. KEEN, COOKE & Co., whose Catalogue of Medical Books will be sent to any address upon request.]

DISEASES OF THE NOSE AND ITS ACCESSORY CAVITIES. By *W. Spencer Watson, F.R.C.S., Eng., B.M. Lond., etc.* London: H. K. Lewis.

This book originated in the hope, says the author, "that by condensing and systematizing the vast mass of material" relating to affections of the nose, which is scattered through the literature of medicine, a certain void might be filled up, and the busy practitioner afforded a real help. He is right in this that in the systematic works on general surgery and medicine the disorders of the nose receive but slight attention. Such a book as the one before us is very much needed by the profession. In many ways the work is an excellent one. The author has freely drawn upon a great array of literature upon the subject, and his work doubtless is a fair presentation of much that is best in this literature. But we think the average doctor will be disappointed in the book, from the brevity of those sections devoted to some of the commoner forms of disorders with which he is often perplexed, and the fullness with

which those affections are treated of which he very seldom even sees. At the same time some of the treatment recommended for the more common affections will meet with criticism.

The free way in which the author recommends the use of the nasal douche will not be allowed to pass unchallenged by our friends the otologists, nearly all of whom, we notice, look upon a nasal douche with only less terror than they would upon a small infernal machine.

Nevertheless, Mr. Watson's book is a good one. It contains more and better information on the subjects of which it treats than any other we know of; and to any practitioner who cares to be thorough in this department we cheerfully commend the work.

CONTRIBUTIONS TO REPARATIVE SURGERY. By *Gurdon Buck, M.D.* New York: D. Appleton & Co. 1876.

The "Reparative Surgery" of the author embraces a series of operations which he performed in the region of the face, the neck and the upper extremities, to repair the damage sustained by the loss of parts or to remove congenital malformations from excess or arrest of development, or to remedy the cicatricial contractions following burns.

The report of twenty-nine cases (some of which had previously been published in medical periodicals) occupies the greater part of the volume. The accurate description of each case; the conscientious account of every step of the operations, which in several cases numbered five and more; and a collection of good illustrations, showing in each case the original deformity and the permanent result after the lapse of long intervals of time — such features make the reading of the book very interesting and instructive. It is not within the scope of this notice to give even a brief synopsis of the cases comprising: 1, a number of hare-lips and cicatricial contractions involving the eyelids, the face, the chin, the hands and the axilla; 2, a large assortment of reconstructions of the mouth and the nose.

The general observations which precede the report of the

cases fairly represent the author's views of plastic operations. In the choice of material which is to supply an existing defect, the author justly warns not to include any cicatricial tissues in a flap, because the same if transplanted will inevitably slough. The truth of this remark is fully substantiated by Case XXVII., in which the author, deviating from his own rule, employed cicatricial skin to cover a large defect; and sure enough, after forty-eight hours sloughing had destroyed all the flaps.

In order to secure a good fit, dressmakers cut the several pieces for a dress after patterns pinned on to the cloth. Dr. B. adopts this method for plastic patch-work: "An exact pattern of the space should be cut from oiled silk, and the pattern applied to the surface which is to supply the new material. Small pins may then be temporarily inserted erect in the skin at intervals around the pattern, and at a distance of one line from its margin, as an allowance for shrinkage."

For the transfer of a portion of skin to a new locality, the author has adopted the usual three methods, viz.: by approximation, by sliding, and by transfer to a distance.

Three kinds of sutures have been employed by the author: The "interrupted thread suture," the "pin suture," and the "beaded wire clamp suture." The latter is intended as an auxiliary for the support of other sutures where it is important to relieve them of strain, and thereby increase the chances of obtaining primary union. They are inserted at a distance of one inch or more from the edges. The adjustment of the edges to each other is achieved by the interrupted sutures, which "should be inserted as closely together as may be necessary to secure exact coaptation of the edges. Their multiplicity is not objectionable, inasmuch as at the expiration of twenty-four hours, when agglutination of the edges will have taken place, their number may be diminished by removing the alternate ones."

To those who yet look upon the material used for sutures as the principal condition for a successful union, we would recommend the following remarks of the experienced writer: "Metallic sutures, in the judgment of the author, possess no

advantage over thread, and are as liable to cause ulceration as thread. Both will remain harmless as long as they are needed, provided the edges of the wound they are designed to hold in contact have previously been liberated, so as to be relieved of all strain upon them."

For the insertion of the pin suture Dr. B. has devised and described a "suture pin conductor." We hope the doctor does not love his invention so fondly as to feel aggrieved if we are free to say that the pin suture, in our judgment, is an unnecessary and cruel torture to the patient, and should be thrown aside by modern surgeons. There is no more need for pins in uniting the edges of a hare-lip than in adapting the edges of the eyelids. The modern ophthalmic surgeons employ the interrupted suture only, while Diefenbach yet thought the pin suture was indispensable in tarsorraphy. And from our own experience we are satisfied that the pins can just as safely be dispensed with in the hare-lip sutures.

In regard to the operation for hare-lips, there is another point in which we differ with the author. He exclusively employed Malgaigne's method of paring and uniting the edges of the cleft, asserting that by this method "the formation of a notch at the point of the lip border where the two halves unite is best prevented." Do the author's own results, as represented by the drawings, sustain this assertion? Four of the seven cases show a decided shortening of the lip at the point where the borders of the cleft were united. Especially the results of the operation for double hare-lip, as depicted in Fig. 46 and 56, do not speak well for Malgaigne's method. We think Mirault's operation in such cases gives far better satisfaction; it prevents more efficiently the formation of a notch, and gives greater uniformity to the height of the lip.

To regulate the process of cicatrization of a large granulating surface (as the result of the excision of cicatricial folds from burns), to repress the exuberant granulations, the author entirely relied on the frequent application of solid nitrate of silver and caustic potassa, aided by the compression with adhesive plaster, cut into strips, and applied in immediate contact with the entire granulating surface. It seems he did

not employ skin-grafting, which, just for such cases, would have been a valuable auxiliary.

It would have been very interesting to learn the author's views of the value of Reverdin's grafting, as well as of Lister's antiseptic dressing. He did not use the latter in the cases reported; but perhaps he will try it now, since Lister has been in this country to demonstrate the accurate mode of his dressing.

The illustrations in the book are very well executed, the artist having taken great pains to give an accurate copy of the photographs; they are highly interesting as truthful representations of the original deformity of each case and of the final result achieved by the reparative surgery.

The book will be read with a great deal of interest, and its pages will be frequently consulted by those who wish to receive some intelligent information in regard to plastic surgery.

CYCLOPÆDIA OF THE PRACTICE OF MEDICINE, edited by *Dr. H. von Ziemssen*, Professor of Clinical Medicine in Munich, Bavaria. Vol. XI. Diseases of the Peripheral Cerebro-Spinal Nerves, by Prof. Wilhelm Heinrich Erb, of Heidelberg, Baden. Translated by Mr. Henry Power, of London, England. Albert H. Buck, M.D., New York, editor of American edition. 8vo. pp. 623. New York: Wm. Wood & Co. 1876. For sale (by subscription only) by W. T. Keener, 93 Dearborn St., Chicago.

We have read this volume with great interest and much profit. It should be in the library of every physician. It discusses, in quite an exhaustive manner, several diseases that are of almost daily occurrence, and but little understood. It is particularly rich in etiology and pathology, but the bibliography, while it shows the author's great familiarity with the writings of his own country, displays a rather surprising want of acquaintance with those of this country, England and France. The symptomatology is very clear and generally quite exhaustive, and the treatment is fully up to the present advanced position of neurotherapy.

The author's career, like his book, has been a great success; he received his degree as doctor of medicine, in Munich, at

the age of twenty-two; at twenty-five he was installed as private instructor in Heidelberg, and first assistant of Friedreich's clinic, and at twenty-eight was made extraordinary professor. He published, prior to the book now before us, twenty important scientific papers.

He preserves the long established division of functional and anatomical diseases of the peripheral nerves, and under the former includes neuralgia, anæsthesia, neuroses of the nerves of special sense, spasm and paralysis; and under the latter hyperæmia, inflammation, atrophy and hypertrophy.

The neuralgias are discussed ably and exhaustively; 173 pages being thus occupied. While we fully endorse all he has written on the etiology of neuralgia, we do not think he has in this, or in the discussion of this important consideration in any of the neuroses, dwelt sufficiently upon immoderate and unnatural sexual indulgence as a powerful cause in the production of this as well as many of the other neuroses of the central as well as the peripheral system. It is our opinion that where the neuropathic predisposition exists there is no one cause that acts so forcibly in the production of these diseases.

Our author writes of the *painful points* of neuralgia, that the frequency of their occurrence has been considerably overestimated by Valleix. We are pleased to have him remark, as confirmation of our own observations, that "in a considerable number of cases it was impossible, even with the most conscientious care, to demonstrate their existence." While discussing the disturbances of nutrition in neuralgia, our author takes occasion to remark that a whole series of the above mentioned trophic disturbances are only explicable on the supposition that the nerves (trophic) exert a direct influence upon the nutrition of the tissues, "thus placing himself on record as a believer in the existence of special trophic nerves."

The articles on neuralgia of the fifth nerve is an excellent one. He dwells upon heredity as the foremost predisposing cause; its greater frequency in middle life and old age and in women, the effect of sexual excess, overstimulation, anæmia and general disturbance of nutrition, the advent of senescence

with fatty degeneration of the tissues and diseases of the arteries, on its development. He notices the occasional influence of malarial infection, wounds, anatomical changes in the nerves and in the brain, irritation of the peripheral nerves and excessive psychical activity in its production. The profession generally will endorse his statement that "the treatment of prosopalgia only too frequently presents extraordinary difficulties, taxing the knowledge and patience of the physician to the utmost, and in spite of all efforts giving an unsatisfactory result."

The article on paralysis in general, and the special paralysis of the facial nerve is thoroughly scientific and will well repay careful perusal. Attention is called to the three lesions that may characterize paralysis, as follows: 1st, Destruction or functional incapacity of the motor central apparatus. 2d, Diminution or abolition of the conductivity of the motor nerves; and, 3d, Abolition of excitability and contractility of the muscle.

The different degrees of vaso-motor and associated disturbances occurring in peripheral, spinal and cerebral paralysis are thus described and explained: "Paralysis of the vaso-motor nerves is of frequent occurrence, and first leads to hyperæmia with slight œdema and subsequently to general atony of the vessels, cyanosis and defective nutrition. These symptoms may be chiefly expected in those cases where the vaso-motor nerves are coincidently affected by the primary cause of the paralysis and they are almost certain to occur in cases of paralysis of peripheral nerves, where the vaso-motor nerves run in the same trunk. They are less frequent in paralysis originating in the spinal cord, because the two sets of fibres are then probably more or less widely separated. Lastly, they are seldom seen in cerebral paralysis, in which the vaso-motor nerves often remain quite intact, since in the brain the vaso-motors run more or less completely detached from the motor nerves."

Our author devotes considerable space to a consideration of the electrical examination of the paralyzed nerves and muscles, and dwells upon its importance in the pathology, and in the differential and local diagnosis. This important subject is

very satisfactorily elucidated. Under general treatment he states the truism "that the first and most important point is the determination and fulfillment of the indicated causalis."

In the article on facial paralysis there is quite an exhaustive dissertation on the importance and method of diagnosing the immediate cause and exact seat of the lesion. In the same article the indications of treatment are clearly stated, and in this, as in the treatment of functional neuroses generally, electricity is given the prominent position to which clinical experience entitles it.

Space will not permit a detailed review of the "Anatomical Diseases of the Peripheral Nerves." We find here, however, the same clearness and thoroughness that characterizes the book generally. D. R. B.

CYCLOPÆDIA OF THE PRACTICE OF MEDICINE. Edited by *Dr. H. von Ziemssen*, Professor, etc. Volume IV. Diseases of the Respiratory Organs. By Dr. Fraenkel, of Berlin; Prof. von Ziemssen, of Munich; Prof. Steiner, of Prague; Dr. Riegel, of Cologne; and Dr. Fraentzel, of Berlin. Translated by J. B. Yeo, M.D., of London; J. S. Cohen, M.D., of Philadelphia; A. B. Ball, M.D., and G. M. Lefferts, M.D., of New York; and E. W. Schauffler, M.D., of Kansas City. Albert H. Buck, M.D., of New York, Editor of American Edition. New York: Wm. Wood & Co. 1876. For sale (by subscription only) by W. T. Keener, 93 Dearborn street, Chicago.

The character of this cyclopædia is already familiar to the profession, and this volume does not differ from those which have preceded it in general arrangement and in the excellence of its print. It is divided into five sections, which are contributed by as many authors.

As a rule the subjects have been thoroughly treated; yet in some cases, the authors have almost ignored the opinions of eminent men, who differ from them, while each has elaborated at great length his own pet theory. This is hardly fair, if the work is intended to give us *all* that is known upon the subjects of which it treats; and if it is designed only as a dictionary of facts, as its name implies, it seems much too voluminous, for we are compelled to read page after page to find the facts,

which might as well be told in a single paragraph; indeed, prolixity is a prominent fault in this volume. For instance, it takes six pages to inform us how to depress the tongue, and this is a fair illustration of the tediousness of many parts of the book. Aside from these objections and an occasional labored paragraph, we can heartily commend this volume to the profession.

Fraenkel tells us, first, how to inspect the pharynx. He next gives us the history of laryngoscopy, and then describes at length the apparatus needed. Of various illuminating apparatus mentioned, he prefers for ordinary use a concave mirror, which can be attached to the head. The mirror should have a focus of six or seven inches, if we are obliged to use artificial light; but if sunlight (which he considers most desirable) can be employed, the mirror should have a focus of nine or ten inches.

After detailing the method of performing laryngoscopy, he describes the anatomy of the larynx and its image as seen in the laryngeal mirror, at the same time calling attention to the special parts to be observed in an examination, and the visible changes which may be produced in them by disease. An article on rhinoscopy follows; it is succeeded by an interesting chapter on general therapeutics in diseases of the nose, pharynx and larynx. Eighty-two pages by the same author are devoted to diseases of the nose — stenosis and atresia, coryza, purulent catarrh, chronic nasal catarrh, and epistaxis; abscesses and ulcerations, tumors and foreign bodies, and concretions and parasites of the nasal cavity.

Coryza is said to be contagious, and a not infrequent cause of facial erysipelas.

A fair idea of this chapter may be obtained from the article on nose bleed, which occupies eighteen pages. Among the causes of this affection he mentions the hæmorrhagic diathesis and increased lateral pressure in the blood vessels within the nose, induced by hindrance to the flow of blood through the veins, as in the paroxysms of whooping-cough, or by increased arterial pressure, as in hypertrophy of the heart with contraction of the kidneys.

Various infectious diseases, as measles, variola, typhus, etc., and also diseases of the spleen, may give rise to this affection. Epistaxis may become, so to speak, habitual. "It frequently appears vicariously for other hæmorrhages, especially those of a hæmorrhoidal character, or in place of menstruation." But we are cautioned about assigning a vicarious character to hæmorrhages. Habitual nose-bleed is hereditary in some families. The author says: "It is but seldom that fainting, prolonged anæmia, or even death, follows a single hæmorrhage of uncommon severity or a prolonged flow." He does not concur in the opinion held by some authors, that habitual epistaxis during youth induces pulmonary phthisis.

The treatment recommended is, first, pressure of the ala of the affected side against the septum in such a manner as to close the nostril and front part of the nose. Pressure may be made by the fingers introduced into the nostrils, or the anterior tampon may be used. When the bleeding takes place from the anterior part of the nose, as is usually the case, these means will be effectual. As an adjunct the carotid may be compressed. He has seldom seen any good to result from the use of astringent drugs during the attack; but hæmostatics may help to prevent its recurrence. In severe cases the posterior tampon must be employed.

Anæmia, hyperæmia, abnormal color and catarrhal inflammations of the larynx are treated of by von Ziemssen in forty pages.

He states that chronic laryngeal catarrh generally proceeds from an acute attack, as the result of neglect or exposure to such irritating causes as loud talking or singing. Another extremely frequent cause of this affection is chronic pharyngitis, which is especially apt to extend to the larynx when several causes co-operate, such as straining the voice and the abuse of tobacco or alcoholics.

Evidently he does not agree with those who attribute this affection in the majority of cases to phthisis.

Diseases of the trachea and bronchi are treated of by Riegel. He devotes one hundred and forty pages to bronchial catarrh, thirty-two to croupous bronchitis, thirty to stenosis of the

trachea and bronchi, twenty to foreign bodies in the trachea and bronchi, and over sixty to bronchial asthma. This article is interesting, but very diffuse.

Nearly two hundred pages are devoted to diseases of the pleura by Fraentzel. We were specially interested in his explanation of the cause of the tympanitic resonance which is commonly obtained over the apex of the pleural cavity when it is nearly filled with fluid. He thinks that the pitch of the sound heard on percussion over the lungs depends not only on the volume of air which they contain, but also on the tension of the pulmonary parenchyma. He states, with Winterich, that as the tension of the parenchyma increases the pitch becomes higher; that as it diminishes the pitch becomes lower; and that with diminution in volume of the lung the pitch becomes higher. As every pleuritic effusion compresses the lung somewhat, its volume becomes less, giving rise to *higher pitch;* but its tension also becomes less, which tends to *lower the pitch.* Therefore, if we accept the above theory, it is at once evident that if the diminution in the volume (*high pitch*) and the diminution in the tension (*low pitch*) are equally balanced, the percussion note under the clavicle will remain unaltered; but if this, as has been stated, is usually deep (*tympanitic*) in moderately large pleuritic effusions, it follows that in these cases the decrease in tension exceeds the decrease in volume. In other words, the tympanitic resonance obtained at the anterior superior portion of the affected side, in considerable pleuritic effusions, is due to a relatively greater decrease in the tension of the lung than in its volume.

This article is noticeable for the description of the author's treatment of empyema, which he has described at great length, with only a hint at the common modes of treatment. He has occasionally seen recovery followed by evacuation of the pus by means of the aspirator; therefore this operation is recommended for two or three times, if the pus withdrawn seems healthy; but if a cure does not result, or if the pus becomes unhealthy, the radical operation must be performed, to allow daily cleansing of the pleural sac.

The author's procedure is as follows: He dissects carefully down in the fourth or fifth intercostal space, somewhat external to the mammary line, until he reaches the pleura costalis, which he divides with great care. The incision made is something over two inches in length. Immediately the pleura is opened, two or three fingers are introduced into the wound to prevent too rapid escape of the pus. After the pus has escaped, the cavity is carefully washed out four or five times with distilled water. He then introduces a short silver cannula, having a circular silver plate, or flange, on its outer extremity, which rests against the chest wall, and must fit the surface accurately. The cannula must be large enough to admit two of Nélaton's medium-sized catheters; it is provided with a movable lid, which closes its orifice. A piece of *Lister's protective* is placed between the plate of the cannula and the surface of the wound. The cannula is then secured by plaster; it is covered with another piece of protective, and over this is placed a large compress of carbolized gauze, and the whole is secured by a bandage. An India rubber bag filled with ice is placed over the region of the wound, and absolute rest insisted on. The patient is compelled to lie very straight in bed to prevent curvature of the spine. Lister's carbolized spray must be used during the entire operation and dressing, and subsequently whenever the dressings are changed.

Twice every day the dressings are removed, and two of Nélaton's catheters introduced through the cannula to the lower part of the pleural cavity; through one of these water runs into the chest, and through the other it is pumped out until it comes away clear. The cannula must then be removed, carefully cleaned, and re-inserted, though this operation causes considerable pain after the wound has partially closed by granulations. The ice bag must be kept in position for two days, and distilled water used for that length of time to cleanse the cavity. Subsequently for several days a solution of common salt—gr. iiss. to ℥ i.—is employed. Afterward compound tincture of iodine, diluted with twenty to fifty parts of water; or permanganate of potassium—gr. i. to ℥ i. of water; or carbolic acid—gr. ii. to ℥ i.—may be substituted.

He teaches that the cavity becomes obliterated by granulation and adhesions of the pleural surfaces. If during the treatment the sac ceases to diminish for a few days, the solution used for washing it out must be changed. As the result of all this care and subsequent tonic and climatic treatment, five out of his eleven cases have been completely cured; but we are not told how long they were under treatment. One was discharged with an incompletely healed thoracic fistula, one had been under treatment only two weeks at the time of writing, and four had died. He compares his cases with those of Moutard-Martin, who performed the radical operation in seventeen cases, but without the after treatment here recommended. Of these seventeen cases, five died and twelve are reported cured; but five of these were discharged with incompletely healed thoracic fistulæ. The other seven the author fears had some deformity of the chest which his five had not.

In estimating the value of this comparison, we must remember that the time these two sets of cases were under treatment is not given; and that the healing of thoracic fistulæ and recovery from deformities of the chest produced by empyema, is in many instances, only a matter of time.

The treatment sketched seems to us cumbersome and unnecessarily painful, while it is no more effectual than simpler methods. E. F. I.

AN INTRODUCTION TO PATHOLOGY AND MORBID ANATOMY. By *T. Henry Green, M.D.*, Lond., etc. Second American, from the third revised and enlarged English Edition. Illustrated by one hundred and eleven engravings on wood. Philadelphia: Henry C. Lea. 1876. pp. 316.

To any one at all acquainted with the earlier editions of this work little need be said, except that in the present the author has made such revision in the several chapters as was necessary to make the teaching of the book conform to the latest knowledge of the subjects under consideration; that much new matter has been added, and that the number of wood cuts has been considerably increased.

Those not acquainted with this text-book ought to be. We have always thought that for the average doctor this work was

much more useful than some of the larger treatises. Into it is condensed much knowledge, to gain which elsewhere would require great labor and wide reading. For students and practitioners full of cares it is particularly valuable.

In this edition the general high character of the work is maintained; the new cuts are fully up to the standard of those used before, which were excellent; the execution of the work at the hands of the publisher is faultless.

We notice that of the thirty or more works bearing on pathology and morbid anatomy which the author has referred to, none are American, while only nine are British. We shall look for a different showing in the book on pathology, of our second centennial year.

A CONTRIBUTION TO THE MEDICAL HISTORY OF OUR WEST AFRICAN CAMPAIGNS. By Surgeon Major *A. A. Gore, M.D.*, late 34th Regiment; Sanitary Officer of the Staff of the Quartermaster General's Department during the Ashanti war of 1873. London: Bailliere, Tindall & Cox. 1876. pp. 219.

This little book does the author credit. As he says in his preface, he has endeavored "to collect together in systematic order the many interesting facts bearing upon the health and efficiency of the soldier in a malarial climate," which are scattered through the literature of the West African campaigns, and has added many personal notes and recollections.

The style of the writing is pleasant; and any one beginning an examination of it will dislike to lay it aside until it is finished.

There are chapters on the climate of the gold coast; on food supply, in its effect upon health; on beverages, alcoholic and others; on tobacco; on water supply; and on medico-chirurgical lessons, beside a number of others.

At the close of the chapter on "spirit ration," he says: "That it can be dispensed with in Africa by men of hardy frame and indomitable perseverance, under great exertion, has been proved by more than one great traveler; but that it does any harm, when taken in moderation at proper times and places, I do not believe."

OPHTHALMIC AND OTIC MEMORANDA. By *Dr. D. B. St. John Roosa*, Professor of Ophthalmology and Otology in the University of New York, Surgeon to the Manhattan Eye and Ear Hospital, and *Dr. Edward T. Ely*, Assistant to the Chair of Ophthalmology and Otology, University of New York, etc.

This very small work "aims to give a concise and correct outline of our present knowledge of ophthalmology and otology, and to serve as a kind of dictionary of these subjects." As such the work merits high commendation. The student who has impressed on his memory by careful study the meaning of every technical term and fully comprehends all the principles enunciated in the work, can follow intelligibly almost any course of clinical or didactic lectures on the eye or the ear.

The work is in duodecimo; price, $1.00.

BOOKS AND PAMPHLETS RECEIVED.

The Electric Bath, its medical uses, effects and appliances. By G. M. Schweig, M.D., etc.

Proceedings of the Connecticut Medical Society, 1876.

A Report on Dermatology. By L. P. Yandell, Jr., M.D., 1876.

Fracture of the Patella, and treatment by a new method. By H. O. Marcy, A.M., M.D., 1876.

Spinal Irritation; its pathology and treatment. By W. A. Hammond, M.D., etc. No. X., Vol. II., of "American Clinical Lectures."

Notes on the Burning of Theatres and Public Halls. Reflections on some of the causes of the great mortality occasionally attending such fires, and suggestions for improved security to life. The antiquity of the drama and the opening of theatres in America, with a chronological list of theatres and other public edifices burned. By J. M. Toner, M.D. 1876.

Walsh's Physician's Combined Call-book and Tablet. Second edition.

The Physician's Hand Book for 1877. By W. Elmer, M.D., and A. D. Elmer, M.D.

The Hypertrophied Prostate. By R. A. Weir, M.D., etc.

Diagnosis of those Diseases of the Eye which can be seen without the Ophthalmoscope. By Henry D. Noyes, M.D., etc.

On Tracheotomy and Laryngotomy. By H. B. Sands, M.D., etc. Nos. VIII., V., and VII., of Vol. II., of "A Series of American Clinical Lectures."

Annual Report of the Northern Hospital for the Insane, of the State of Wisconsin, for the year ending Sept. 30, 1876.

The Ovulation theory of Menstruation: Will it Stand? By A. Reeves Jackson, A.M., M.D., etc. New York: Wm. Wood & Co., 1876.

Micro-Photographs of Human Blood Discs; of Epithelium lining the Lymph Sac of the Frog, and of the head of a cysticercus from the hare, magnified respectively 420, 300 and 40 diameters. Photographed by Dr. O. C. Oliver, of Chicago.

Clinical Reports.

ILLINOIS CHARITABLE EYE AND EAR INFIRMARY.

SERVICE OF DR. F. C. HOTZ.

1. *A Piece of Iron in the Iris 24 years.*

In July of last year a Mrs. M. Sch., æt. 29, presented herself at the infirmary, because, for the past four weeks, her left eye had been getting red and sensitive. By ordinary daylight we noticed a slight amount of redness around the cornea; the latter appeared perfectly clear, the pupil was round and movable, and the lens exhibited all signs of a mature soft cataract. By the aid of the focal illumination, however, we discovered, in the external half of the iris, a small dark brown fragment of iron with sharp corners and edges; it was lodged midway between the periphery and the pupillary border of the iris, and had evidently pierced the entire thickness of the latter,

so as to wound the anterior capsule of the crystalline lens. For, after dilating the pupil by atropia, we found that portion of the capsule which was behind the injured portion of the iris to be drawn out like a funnel toward, and fastened to, the iris. But the pupillary border of the iris was perfectly free, there being no posterior synechiæ. The focal illumination also revealed the point where the iron had passed through the cornea; it was indicated by a fine linear scar just opposite the foreign body in the iris.

At first the woman could not tell how she lost the sight of this eye, she only knew it had never been sore until lately; but after giving the question, as to the possibility of an injury a few minutes thought, she remembered that when she was about four or five years old a small fragment of a hatchet flew into her eye, and an old woman had tried to take it out. She always believed it had been removed because she felt no pain in the eye afterwards, and because the eye never was inflamed.

The absence of iritis in this case is a remarkable fact, because, as a rule, the iris does not tolerate the presence of a foreign body; sooner or later this excites an inflammation of the iris which can be arrested only by the removal of the foreign substance. And the final history of this case shows that it is no exception of this rule; although the eye had tolerated the fragment of iron during a period of 24 years, it then began to show the signs of iritic irritation, which was likely to lead to a destructive inflammation unless the foreign body was removed in time.

The patient has not returned after her first visit; and it might be possible that the use of atropia had temporarily checked the irritation; may be, however, that she dreaded too much the idea of an operation.

2. *A Splinter of Coal in the Posterior Layers of the Cornea.*

On October 14th, an Irish boy, æt. three years, was brought to the infirmary. Three days ago another boy had thrown a small piece of coal at him; the coal hit his right eye and broke into several pieces; one piece, at least, was taken out of the eye by the boy's father. But when the eye, instead of getting

well, became redder, more painful, and very sensitive to the light, the parents sought for advice at the infirmary.

The eye exhibited the usual symptoms of corneal inflammation, which was occasioned by a small wound in the inner half of the cornea. This wound was made by a very small splinter of coal, which had cut its way obliquely backward through the corneal tissues until it reached Descemet's membrane. There it was arrested, and there it lay with its sharp edge grating on that very delicate membrane; it could gradually preforate it and fall into the anterior chamber. The slightest touch with an instrument also would have pushed it through the posterior layer of the cornea into the aqueous humor.

In order to prevent this untoward accident we proceeded in the following manner: The boy being etherized the wound was enlarged by cautious strokes with a cataract knife, so as to change its oblique and narrow track into a short and wide funnel, its narrow end being turned toward the foreign body. The wound thus being made larger than the largest diameter of the foreign body, the latter could easily escape if moved by a slight pressure from behind. This pressure could not be applied by an instrument, inasmuch as any attempt to insert it between the splinter and Descemet's membrane would necessarily have ruptured the latter and have dislodged the coal into the anterior chamber. But we could utilize the pressure of the aqueous humor for the motor power. For this purpose the Descemet's membrance was punctured a little to one side of the foreign body, and the puncture was enlarged by carrying the point of the knife (which was then in the aqueous humor) toward and behind the coal. By a gentle pressure upon the lower border of the wound with the blade of the knife the puncture gaped sufficiently to permit the escape of the aqueous humor. This current of water, directed toward the posterior surface of the splinter was strong enough to dislodge the latter and to carry it up toward the anterior surface of the cornea. As soon as it had fairly receded from the posterior surface of the cornea the pressure upon the wound with the knife was discontinued, in order to

stop the further escape of the aqueous humor. The splinter was now near the anterior surface of the cornea, and could be easily and safely removed by the point of the knife while it was withdrawn from the anterior chamber. It was a minute thin particle of hard coal.

By arresting the flow of the aqueous humor before the anterior chamber was entirely emptied, we prevented the anterior surface of the iris from coming in direct contact with the posterior surface of the cornea, and obviated thereby the possibility of an adhesion of the iris to the cornea at the point where it had been punctured. The operation over (which did not occupy a quarter of the time it takes to describe it) a drop of a solution of atropia was instilled, and the eye carefully bandaged. Three days later all signs of inflammation had disappeard, the corneal wound was closed by a fine scar, the anterior chamber of a normal depth and the pupil regular and still dilated by the effect of atropia.

3. *Paralysis of Ocular Muscles after Diphtheria.*

During the present epidemic of diphtheria it may be very appropriate to draw the attention of the physicians to the fact that a paralysis of the muscles of the eye is occasionally met with after diphtheria. It may follow a mild or severe attack of the disease and it may settle upon any of the external muscles, or affect principally the ciliary muscle. Under a general treatment with tonics the function of the affected muscle will, as a rule, be restored.

The following cases have lately come under our observation:

a. Paralysis of the Right External Rectus Muscle.

Fritz R., æt. four years, was seized with a violent attack of diphtheria in November; he was sick almost four weeks. When he was convalescent his parents noticed that his left eye was turned inward. Examined December 23d, a marked convergent squint of the left eye, due to a partial paralysis of the external rectus muscle. Ordered the elixir of calisaya bark and iron.

January 27th. The eyes are straight to all appearance, and

by covering the left eye with the hand, so as to exclude it from vision, no deviation can discovered.

b. Paralysis of the Ciliary Muscle.

Gustav N., æt. nine years, had a mild attack of diphtheria in the latter part of November. After recovery he complained of being unable to read ordinary print. The parents unable to notice anything abnormal in the eyes, suspected the boy of malingering in order to be excused from school.

Examination, Jan. 1st. Pupils rather large and decidedly sluggish in responding to the change of light. No inflammation, no obscuration of the transparent media, normal fundus. $V=\frac{20}{20}$ with convex 24; yet with these glasses he can read Jaeg. 12 only, but with convex 8 he is able to read Jaeg. 1 fluently at a distance of 12 inches.

The paralysis of the ciliary muscle obliterated the power of accomodation; the eyes being naturally far-sighted, required the aid of a convex lens (+24) to adjust the focus at distant vision (at 20 feet). And to adjust the focus for the short distance of 12 inches an *additional* lens (+12) was required; *i. e.* $\frac{1}{24}+\frac{1}{12}=\frac{1}{8}$.

c. Paralysis of the Ciliary Muscle.

Stella N., æt. seven years, Gustav's sister, also had diphtheria at the same time, and suffered from weakness of the accommodation (partial paralysis of the ciliary muscle).

d. Partial Paralysis of the External Rectus.

Another sister, æt. five years, had a marked convergent squint of the left eye after diphtheria. At the time she was examined the external rectus muscle had recovered its power to a great extent, showing a deficiency only under the covering hand.

Medical News and Items.

THE PREVAILING EPIDEMIC AND THE MEDICAL PROFESSION OF THE CITY.

About 100 medical gentlemen of Chicago assembled at the Grand Pacific Hotel, on the evening of January 25th, in accordance with a request issued by the secretary of the Medical Press Association, at the suggestion of its other officers. The ostensible purpose of the call was the consideration of the invitation made by the Health Commissioner of the city to the medical profession, to furnish him with such counsel as would be most available, in view of the great prevalence of scarlatina and diphtheria, and the resulting mortality in the various wards.

Dr. Hamill, the president of the Association, presided, and Dr. Sawyer acted as secretary. Those who were present wisely concluded not to enter into a discussion of the appropriate treatment of either disease, but to confine the debate to the question of prophylaxis, both by hygienic and medicinal means. As to the latter point great difference of opinion was expressed; not, however, so much on the question of the value of any special remedy as a prophylactic (for it seemed to be the view of almost all present that no such remedy existed), but as to the propriety of issuing a formal statement positively declaring that prophylaxis by internal medication was both valueless and positively injurious. It was finally concluded that the entire question should be submitted to a committee (who were instructed to report at a subsequent meeting) composed of Dr. H. A. Johnson, chairman, and Drs. Ingals, Byford, Etheridge and Jackson.

On the 27th of the month the adjourned meeting, held at the same place, was largely attended; and the committee above named presented their report. The various articles in the latter were separately discussed and argued upon; none meeting with such determined opposition as that relative to the value of preventive medicines. At this time, as at the

preceding meeting, the objection was based chiefly, not upon any belief in the value of such medicine, but upon what was considered the impropriety of absolutely discouraging the public from employing remedies which might be supposed to have prophylactic value, even when administered under the direction of a judicious physician. The result finally reached is seen in the subjoined copy of the report. We are of opinion that, taking into consideration the existing prejudices in the minds of many of the laity, and the honest disposition of many medical men to attempt to secure their patients from an imminent danger, the recommendation is a good one.

In all other respects the report of the committee is admirable from every point of view, and was worthy of promulgation to the representative of the Health Department and the public, before whom the report was spread in full by the daily journals of the city. We cannot but think that the gentlemen engaged in this discussion and the preparation of this report, discharged a high public duty by their action, and one which has not failed to heighten public respect for their position and attainments. Subsequently, Dr. Oscar C. DeWolf, a competent and worthy medical gentleman, was nominated by the Mayor of the city as Superintendent of the Department of Health, and this nomination was confirmed by the Common Council. The new incumbent has since proceeded to the discharge of his duties in a manner which promises an improvement in the administration of an important public office, whose action we have had frequent occasion to critizise in these columns.

Let the medical gentlemen of Chicago hereafter nominate the candidates for all positions where the county and city employ physicians, and we shall soon see a desirable divorce between politics and science. Hitherto "politics" has been the greatest enemy of scientific progress. Let us hope that with such nominations in the future, no medical man may be found engaged in the disgraceful and unprofessional task of lobbying for place, and soliciting votes for his appointment to a position of profit.

We feel assured that the assembling of medical men for the discussion of questions of general and public importance, under the auspices of an association whose scope is less limited than that of the medical societies proper, is a step in the right direction; and its substantial fruit has been pointed out. We trust that by the aid of such additional meetings in the future the medical men of Chicago will give some guarantee to the public that they will so regulate the practice of medicine, at least *within their own ranks*, that none but competent men will be found there, to whom the people of the city are invited to entrust their health and their lives.

The following is the report of the committee:

REPORT.

To the Health Department of the City of Chicago: In conformity to the request of your superintendent, a large assembly of physicians convened at the Grand Pacific Hotel on the evening of the 25th inst., to consult on the sanitary condition of the city, and especially as to the most effectual means of checking the ravages of scarlet fever and diphtheria, under which it has for some time suffered. At this time the undersigned were appointed to prepare and present a report on the subject to a subsequent meeting. In fulfillment of the duty thus imposed the subjoined report is made. It is clearly true that the conservation of the public health is one of the most manifest duties of any civilized people, and the subject cannot escape the consideration and care of civil governments. At all times, and especially in times like the present, the health department of the city should be conducted on principles of strict economy, but we think sufficient money could be diverted from our present municipal expenses for the public charities of the county, and that without impairing their usefulness, to give an increased security to the lives and health of those outside of these institutions. Even liberal expenditures would be warranted, if for anything, for the purposes we seek; for aside from the mental and bodily pain that

sickness brings to individuals and families, it is the most expensive misfortune that can rest upon a people; and to the poor it is an overwhelming burden.

Disease checks the production of wealth, and necessitates its largely increased consumption in the care of the sick, while the lives that are sacrificed have a substantial value to the state. Viewing the question in this, its lowest aspect, it is clear that a proper regard for our commercial, social and pecuniary interests, demands that a residence in this city should be rendered safe, salubrious and agreeable. Nature has given the surroundings that should make Chicago one of the most healthful cities of the earth, and all that is necessary to the realization of this condition is the intelligent co-operation of its citizens. We think the board of health should be organized with powers adequate to the accomplishment of this purpose.

As to scarlet fever, the more immediate subject of our inquiry, we count it among the most contagious of diseases, and of its fatality the many stricken homes of this and other cities are a painful attestation. The disease when established has a course largely controlled by the laws of its own nature. Most cases, undisturbed in their progress, go on to recovery, while those of aggravated severity are not reprieved from death by the most enlightened and assiduous efforts of both physician and friends. Therefore the public safety should be sought in efforts to prevent this disease from being disseminated. We believe proper methods faithfully carried out, would expel it from the city, and prevent its return in an epidemic form. Toward effecting this the following rules suitable to be observed so far as practicable are submitted:

Scarlatina, scarlet fever, scarlet rash and canker rash are one and the same disease. It is very infectious. A very mild case may give rise by infection to very a severe one. Infection is contained in all discharges from the body during the progress of the disease and recovery, but more especially from the skin during convalescence, and when the cuticle is being shed. The dry particles which are separated from the skin are highly infectious, and retain their infectious nature

for an unknown time, unless thoroughly disinfected. They are disseminated through the air, and become attached to articles of furniture, clothing, draperies, wall papers, etc. Thus the disease may readily be conveyed from one person to another by those who are not themselves suffering from it. It is also conveyed by bedding, clothing, furniture, and other articles, and by rooms which having been exposed to infection, have not had their floors, ceilings or walls disinfected, or had the wall paper removed.

Isolate the person affected as much as possible from other inmates of the house. This is most readily effected by at once removing him to an upper room, if circumstances permit. The room selected should be large and airy, and the means of ventilating it, which shall be presently mentioned, at once adopted. No child should be permitted to go to school, or to any public assembly, from an infected house, and communication of such, in play or otherwise, with healthy children should be prevented. When a person has had the disease, he should not be permitted to mix with others until he has perfectly recovered, and has had his clothes thoroughly disinfected; and not even then without the permission of his medical attendant. Nor is it advisable that any one who has had the slightest communication with a person suffering from the disease should go to any church, meeting, public house, fair, or market, etc. Neglect of these precautions is a prolific cause of the spread of this disease.

Attendants on persons suffering from scarlatina should be chosen, if possible, from those who have already had the disease.

There should be no public funerals of any patient who has died of any infectious or contagious disease. Remember that the separation of the sick person from the well is the most certain means of preventing the spread of the disease.

The room must be kept well ventilated under the physician's direction, by means either of a fire (when required) or of an open fire-place and chimney, and of windows opening to the external air. By means of the latter ventilation is most effectually procured, so as to avoid draughts, in the following

manner: Raise the lower sash of the window three or four inches, then procure a piece of wood made to fit accurately in the lower opening, and place it there. By these means free outward and inward currents of air, without causing any draughts, are obtained through the vacant space between the two sashes. When the window is merely opened from the upper or lower sash draughts are invariable caused.

Before removing the patient to the room to be occupied, the following preparation ought to be made: All superfluous curtains, carpets, woolen articles, unnecessary clothing, in short, everything likely to retain infection should be at once removed. The patient's bed ought to be so placed as to allow of a free current of air around it, but not so as to place it in a draught.

All sheets, towels, handkerchiefs, etc., which have been used by the patient should be thoroughly disinfected and afterward carefully washed.

In all cases of infectious disease it may be as well that the patient use rags or pieces of old linen, etc., (in lieu of pocket handkerchiefs,) which may afterward be burned, or, better, buried.

When the bed or body linen is soiled, the soiled spots should be sprinkled with some disinfecting powder.

Frequent bathing and the application of oil or glycerine and water, or some such substance under the direction of the physician are advisable. First, they prevent the escape of contagious matters from the body. Second, many physicians believe they are useful.

After the removal of the patient to the room in which he is to remain, the outside of the door and door posts should be completely covered by a sheet kept wetted by some disinfecting fluid, such as the chlorides, sulphates, or sulphates of zinc, lime, soda, iron, etc. Implicit trust, however, should not be placed in the so-called "disinfectant." They are very useful when judiciously employed, but they are by no means certain "preventives of disease."

Rooms which have been occupied by a person suffering from infectious disease should, on the termination of illness, be

at once disinfected. To effect this thoroughly, all crevices around windows and doors and the fireplace should be closed by pasting pieces of paper over them. Lumps of sulphur (brimstone), one pound for every thousand cubic feet of space, should then be put into a metal dish, placed by means of tongs over a bucket of water. This being set fire to, the door should be closed, and the room should be allowed to remain without interference for three or four hours. After this time the windows should be thrown open, and when the fumes have disappeared all the wood-work and walls should be thoroughly washed with soft soap and water, to which carbolic acid has been added (one pint of the common liquid to three or four gallons of water), and the paper from the walls stripped off. In white-washed rooms the walls should be scraped and then washed with hot lime.

No reliance ought to be placed upon any medicine given to prevent the disease. Medicines so given may do harm. They should be taken only upon the order of the physician of the family.

WHAT THE AUTHORITIES OUGHT TO DO.

1. Require a report to the health department of every case of contagious or infectious disease.

2. Officially inquire into the origin of disease in each case.

3. Take such measures as will prevent communication between the infected location or house and those not infected, by the placing of placards, and other measures which have been found useful as warnings to the public; and by prohibiting children from infected houses from attending public schools; prohibiting public funerals of persons who have died from infectious or contagious diseases, and by enforcing the disinfection of clothing, furniture, bedding and the rooms used or occupied by persons who have had any contagious or infectious disease.

If additional legislation is required to secure the measures, it should be had without delay.

The committee earnestly recommend the people, the physicians of the city, and the public authorities to adopt and

enforce, as far as possible, substantially the measures above recommended. Concerning the utility of these means there is among educated physicians no important difference of opinion. The means proposed and the disinfectants suggested are not expensive.

THE PANCARTES.—Our French exchanges indicate that the medical profession of Paris have been much moved recently in consequence of discussions and correspondence on the subject of the "*pancartes.*" These are a species of card suspended above the head of a hospital patient, indicating his name and other facts relative to his case, of interest to the surgeon. The general superintendent of the Paris Hospitals, a layman, has recently insisted that these cards should state also the religion of the beneficiary, when he or she received the sacrament last, and other items which would be of value only to the priest or sisters of charity. A vigorous public protest against this order has been made by several eminent hospital surgeons who claimed that the sick committed to their professional charge shall not be annoyed by questions intended to ascertain such facts as those required to be stated upon the "*pancarte.*"

There have been rejoinders and sur-rejoinders, but the medical men have been almost unanimous in their condemnation of the edict, while they have been coolly notified by the authorities to attend to their professional duties and leave the religious care of their patients to the clergy and sisterhood.

Editorial.

As the news of the misfortune which has overtaken the publishing house of W. B. Keen, Cooke & Co. will reach the readers of the MEDICAL JOURNAL AND EXAMINER before the February number will make its appearance, and may cause doubt on the part of the subscribers as to our future, we take occasion to say that the JOURNAL AND EXAMINER will be issued with its accustomed regularity.

The Medical Press Association is pledged for its success, and will see that under no circumstances will it be allowed to fail, either in its promptitude or excellence.

We cannot now inform our readers just what arrangements for the publication of the JOURNAL AND EXAMINER will be made, but we can assure them that it will be published. In our next issue we hope to be able to give them every information in reference to our plans and prospects.

We deplore the disastrous effects hard times have wrought upon our friends and publishers, heartily sympathize with them in their trials, and hope that very soon they will recover from them and become more prosperous than ever.

We will close this editorial note by expressing our warm appreciation of the generous and diligent co-operation we have received at their hands, in our efforts to make the MEDICAL JOURNAL AND EXAMINER a first-class medical periodical.

☞ Until futher notice all Subscriptions and Communications should be sent to the EDITOR, at the office of publicatlon, 115 State Street.

Obituary.

In Chicago, January 7, 1877, died, ORRIN COOLEY, M.D, aged 33 years.

Dr. Cooley was a native of Massachusetts. He took his degree at the University of Pennsylvania, in 1869. For a year after his graduation he was house surgeon at the State Asylum for Inebriates of Pennsylvania. He settled in Chicago a few months before the great fire, by which he sustained severe loss.

He was well but not widely known in the profession. Those who knew him esteemed him. He was an honorable physician, a student, a scholar, a truly modest gentleman — altogether a man the profession could illy afford to lose.

He had delivered in the Chicago Medical College, some years ago, several courses of lectures on surgical anatomy, which were distinguished for their clearness and excellence.

Summary of Progress in the Medical Sciences.

I. Practical Medicine.

1. *Athetosis.* Bernhardt. *(Clinic, Mo. Abstract,* August, 1876.

Dr. M. B., privat docent in Berlin, contributes an article to *Virchow's Archiv*, Band 67, Heft i., in which he attempts an analysis of those complex symptoms grouped by Hammond under the name athetosis (without fixed position). This disease is characterized by an inability to retain the fingers and toes in any position in which they may be placed and by their continued motion. These movements are not irregular, as in chorea, nor tremulous, as in paralysis agitans, but occur slowly, and with a certain degree of regularity. The will is almost powerless to control them, and they occur even during sleep. As a result of the continued activity of the muscles of the fingers, particularly of the thumb and index finger, a considerable hypertrophy of the muscular tissue of the forearm takes place. The sensibility of the skin is diminished; the prognosis, so far as regards a cure, is unfavorable, all therapeutic means having thus far proved futile. Up to the present time no *post-mortem* examinations have been made. Hammond suspects a lesion (sclerosis) of the corpus striatum or of the thalamus opticus. His first two cases were those of two men, one of whom, a very intemperate person, had suffered attacks of epilepsy and delirium tremens; the other was of a tubercular tendency, and his father and grandfather had been excessive drinkers. After several decided apoplectic attacks, he became aphasic, and, in addition, exhibited the usual symptoms of "athetosis." Up to the year 1873, Hammond had encountered six cases of this affection, two of these being women; three were drunkards. In the *Medical Times and Gazette*, 1872, Vol. I., Clifford Allbut described the case of a woman, aged fifty-five, presenting these symptoms, but in whose case no suspicion of tippling could be entertained. The report, however, was accompanied by an expression of doubt on his part of the correctness of classifying it under the same head as Hammond's disease. It differed from the latter chiefly in that the movements ceased entirely during sleep. Currie Ritchie, in the same journal (page 342), and with the same reservation, reports the case of an engineer, aged fifty-nine, non-syphilitic, and not given to drink, who, after an apoplectic seizure, remained speechless (aphasic?) for three months, at the end of which time he presented these continuous uncontrollable movements of the right fingers and toes.

In the *Journal of Mental Science*, Vol. XIX., 1874, Gairdner relates the case of a boy, not predisposed to nervous maladies, who manifested the same symptoms; absolute rest and strict attention served to diminish the

number and force of the movements, but they never ceased entirely except during sleep.

These are all the cases thus far carefully described. It will be observed that the only minute accounts have been rendered by Americans and English, as the case mentioned by Eulenberg, even in his own estimation, scarcely falls under this head.

The writer then gave the following report of a case observed by himself:

Robert Krüger is the twelve-year-old son of his still living and healthy father. The mother, likewise in perfect health, has borne twelve children, of whom seven still live. Four died in early infancy; the fifth, a son, was in good health until sixteen years old, when, having the toothache, he went to a dentist, who broke off the diseased tooth. From this time began a "restlessness" of all the muscles of his body, which led his parents to take him to the Berlin poliklinik. The symptoms improved after a few applications of the constant current, but increased very much after the removal of the root of the tooth, and he soon afterwards died.

Of the children still living, a daughter, ten years of age, had violent choreic symptoms for over six months. She has now recovered, and is strong and healthy, but with every variation of the weather manifests sudden violent changes of disposition, and has severe jerking motions of one side. The five remaining children are healthy and active.

This boy Robert was also, up to his fourth year, in good health. After an acute illness, lasting for several weeks (from all accounts this seems to have been exanthematic), irregular motions of the right foot and hand were observed. Although these continued, he went to school at the usual age, and progressed with his studies like other children, but was often observed to cry. He learned to write with his left hand.

The patient is a boy quite well developed for his age; has no fever; attends school; appetite and sleep are good; he has frequent headaches, particularly in the neighborhood of the forehead and temples, which parts, especially the left side, are sensitive to pressure. His cerebral functions seem perfectly intact. Nothing abnormal can be discovered in the reaction of the pupils nor the movements of the eyes. The tongue, on being protruded, deviates very slightly to the right, and exhibits involuntary contractions. Both tonsils were enlarged. In state of quietude, no difference of the two sides of the face could be observed; but when the patient attempts to shut his eyes, the motion is much more rapid on the left side, and the left angle of the mouth is somewhat higher than the right. During the act of laughing the mouth is drawn a little more toward the right. Now and then, perhaps twice within a quarter of an hour, and when speaking, he draws the mouth a little to the right. His voice is low, but clear and distinct.

Motility and sensibility of the entire left half of the body are perfectly intact. Even on the right the motions at the shoulder and elbow are readily made, but more slowly and weakly than on the left side. No involuntary movements are ever observed in the head, shoulder or forearm of the right side during sleep or in a state of excitement. The right lower

extremities, the thigh and leg, are perfectly quiet. The foot and toes, like the hand and fingers, seem to be the only parts involved. Now and then he suffers pain of a shooting character in the entire right upper extremity.

The patient walks alone; now and then his foot bends laterally, while his toes often turn under. He can stand for a considerable time on his right foot. If he be seated quietly, and his attention wholly occupied with something else, the right hand and fingers will remain in perfect rest. So soon, however, as his attention is attracted to these parts, a remarkable restless play of the fingers begins. In tolerably rapid succession these are ab- and adducted, flexed and extended; the thumb, the index, and the little finger are the ones affected, whilst the two others remain quiet. The joints of the hand seem meanwhile to be immobile, while a continuous muscular play is observed on the flexor and extensor surfaces of the right forearm; the configurations of the muscles and tendons of the forearm are undergoing continual changes, which are quite noticeable under the skin. The sensibility of the entire right side of the body, face, trunk, and extremities, as compared with the left, is decidedly diminished. Now and then a prolonged effort of the will succeeds in controlling the movements, but just as often they become much more violent. The right forearm is more voluminous than the left. The exact amount of increase due to these movements cannot be determined, as the left is also larger than it would otherwise be, since the boy has been using it in lifting, writing, eating, etc., ever since the fingers of the right side began their involuntary play. The hip and knee joints are at rest. There is a slight lateral displacement of the foot and a distinct plantar flexion of the toes. Sometimes, particularly at night (in which they differ from the fingers), decided involuntary movements of the toes take place. So, at least, say his relatives; his father has observed these motions during his son's sleep.

The continual motion of the muscles of the forearm rendered an electrical examination of but little value; but it was shown that the muscles supplied by the ulnar and median nerves responded promptly to the faradic and constant currents.

The heart-sounds, examined repeatedly, are loud and clear.

The malady has now remained unchanged for seven years; galvanization, attempted for months (by the passage of a weak constant current through the head), the regulation of diet, and the administration of tonics, have been followed by no results worthy of mention.

There can be but little doubt that the history of this case corresponds essentially with that series of symptoms denominated by Hammond "athetosis." As in other cases, we find here the restless play, especially of the fingers and less of the toes, during perfect quietude of all other parts of the extremities; we find the peculiar position of the foot and toes, the anæsthesia of that half of the body, the diminution in strength, even though in but slight degree as compared with the healthy side, the hypertrophy of the muscles kept in such continual motion; we observe, also, the long continuance of the malady and the seeming impossibility of cure.

The cases thus far observed, of which we have reliable knowledge,

affected three men, one woman, and one boy; both sexes, and early and late life. Of these, Allbut's woman and Gairdner's boy had no hereditary predisposition, and no indications of previous disease of the central nervous system. On the other hand, one of Hammond's was a drunkard and epileptic; and the second, the son of a toper, became aphasic after an apoplectic attack. This was also the history of the three male cases reported by Ritchie. The history of the boy Krüger demonstrates a predisposition in the family to nervous diseases, particularly to chorea. That he acquired this affection after a febrile exanthema proves nothing; but it is somewhat remarkable that in his case the nervous disease developed into something so resembling chorea, a disease with which at first sight it would be most likely to be confounded. Now, then, we come to the point of greatest importance, namely, whether in the collection of symptoms described by Hammond we really have a new disease, one not heretofore described. It might, perhaps, be mistaken for that other nervous malady, *paralysis agitans*.

The most essential points in the symptomatology of this disease are a tremulousness of the voluntary muscles and their gradual wasting away. It is a disease of advanced age, although a few writers (Meschede, Huchard) have observed cases in children; at all events, these early cases belong to the greatest of rarities. The absence of any great degree of paralysis, in these cases of athetosis, which their long continuance might have led us to suspect, the absence of all tremors of the head and remaining parts of the upper extremities, the absolute limitation of the involuntary motions to the most peripheral portions of the extremities, the restless movements of the fingers (which cannot however be classed as "tremulous," as it represents more correctly a motiveless grasping), all seem to indicate the incorrectness of identifying these two sets of symptoms. The picture of the affection just given likewise contraindicates its classification with insular degeneration of the cord, another peculiar affection heretofore classed with the great group of chronic diseases of the spinal cord. In this disease uncontrollable tremulous motions are also observed, but these never occur so long as the patient undertakes no voluntary motion; in fact, the point recognized by all writers as distinguishing this from paralysis agitans, is that these tremors occur only when the patient is attempting a voluntary motion. In that disease, again, the motions are tremulous, which, as before stated, is not the case in athetosis; further, in insular sclerosis they are not confined to the fingers and toes, nor are disturbances of sensibility observed in the majority of cases. Finally, in sclerosis the origins of many cranial nerves are affected by the chronic degenerative process, and so complicate the symptomatology by affections of the ocular muscles, of those of the tongue, the larynx and the pharynx, that these complications become the almost characteristic symptoms of the disease; this is not the case with athetosis, thus affording a proof that the latter is a separate and distinct disease, and should not be mistaken for or classed with sclerosis. Still further, it must be remembered that sclerosis, like paralysis agitans, has rarely, if ever, been encountered in childhood. We

come back finally to the point from which we started; an impartial observer of a case of athetosis would probably first suspect that he had to deal with hemi-chorea, or unilateral chorea. [The writer lays special stress upon the word "unilateral," as all the cases thus far have been right-sided.]

The patient whose history is above narrated has had for years an affection coming on after a long-continued illness; Hammond's first case (an epileptic) was in an unconscious condition (delirium) for six weeks, at the end of which time the right upper extremity began to manifest the motions characteristic of athetosis; in his second patient they came on after an apoplectic seizure followed by aphasia; in Ritchie's case, too, these followed an apoplectic attack succeeded by a three months' aphasic condition. Here, too, the right extremities were the affected ones. These considerations lead Bernhardt to place athetosis in that group of affections which have lately been designated under the names Post-paralytic chorea (Weir Mitchell, *Amer. Journ. Med. Sciences*, 1874, page 352,) or Hemichorée post-hémiplégique (Charcot, *Progrès Médical*, 1875, Nos. 5 and 6). According to these authors, a choreic condition is frequently developed in the paralyzed limbs after a long continuance of hemiplegia. There is generally also an anæsthesia of the skin and of the organs of sensation on the paralyzed side. Charcot locates the affection on the opposite side of the brain, at the posterior portion of the thalamus opticus, the nucl. cand., and the posterior portion of the foot of the corona radiata.

The writer agrees with Hammond and Charcot in considering this the location of the lesion in athetosis. Still we have as yet no positive proof of this, as no *post-mortem* examinations have yet been made. The previous apoplectic attacks in several of the patients, the aphasic condition, and the disturbances of sensation in the affected parts afford pretty conclusive evidence.

He does not, therefore, feel inclined to admit the correctness of Eulenberg's view which locates the lesion in circumscribed portions of the cortical substance. Affections of this character have never been observed to last for years, nor have circumscribed groups of muscles exhibited the movements peculiar to athetosis; nor have the motions been continuous, quiet and regular, but have recurred as separate attacks at considerable intervals; there have been jerking movements in the extremities which ceased after a time, to be succeeded by paresis. These cases do not last so long as those of athetosis, nor do they follow that fixed course we have observed in the ones thus far examined.

It was this peculiar phenomenon of the limitation of the involuntary, choreic movements to the fingers and toes which induced Hammond to adopt the new name "athetosis." The symptoms in general resemble those of hemi-chorea, but differ in some very important particulars, for in the latter affection the motions are not confined to the extremities, but extend also to the face and the organs of speech and deglutition; besides, hemi-chorea affects by preference the left side. Although he believes that in this affection we have nothing more than a modified chorea, he would,

for the present at least, retain the term athetosis, as the affection differs from all others in some important features, and as the term itself is based only on symptoms, it should be allowed to remain until sufficient anatomico-pathological observations have been made to establish a name for all time.

2. *Lesion of the Cerebellum and Diabetes Mellitus.* MOSLER. (*Berl. Klin. Wochenschr., N. Y. Med. Record*)

In a fatal case of diabetes mellitus, which was treated in Mosler's clinic, and in which there had been no disturbances of sensation, or motion, or of the special senses during life, the autopsy revealed a well marked spot of inflammatory softening about the size of a pigeon's egg, in the nucleus dentatus of the left hemisphere of the cerebellum. The theory of the neuropathic origin of diabetes rests on sound practical grounds, and there can be little reason for doubting that in this case the increased secretion of sugar was excited by the central affection, especially as Eckhard has shown that injury of the second lobe of the vermis cerebelli in rabbits will artificially excite diabetes. It is strange that such a well marked lesion was not attended by any signs of disease of the central nervous system during life.

3. *Functional Spasm.* MITCHELL. (*Am. Jr. Med. Sc.*, Oct., 1876.

Dr. M. describes a number of cases differing in several particulars from writer's cramp and the spastic disorders of shoemakers, tailors, etc. Such cases are either those wherein, (1) natural muscular actions are exaggerated, with sometimes spasmodic activity in remoter groups, or (2) action of one group of muscles causes spasmodic acts, tonic or clonic, in remote groups of muscles not involved in the original movement, or (3) standing or walking occasions general and disorderly motions affecting the limbs, trunk and face, and giving rise to general spasm without loss of consciousness.

One case was that of a maker of watches, whose work required him to be constantly picking up tiny screws; he had followed this employment thirty years. His general health was perfect, but for two years frequently on picking up a screw his thumb and forefinger would become locked fast with a powerful grip, which would last from ten to thirty minutes. Often the spasm would cause the fingers to be cut by the screw. The spasm occurred ten or twelve times a day. The spasms occurred oftenest when his body was in the usual position for work. There was no pain, and only at times slight tremor. He had all sorts of treatment. Nothing but rest did him any good.

Another patient was a sawyer of wood, of forty, temperate and healthy. He had occasionally a spasm of the biceps, which would occur just as he had the saw drawn back for a downward motion. The spasms were violent, the forearm being drawn tightly up against the arm and with such power that a force of eighty pounds pulling against the forearm only

caused the spasm to slowly give way at the end of five minutes. The spasms sometimes lasted for several hours. An attack occurred usually once or twice daily. The spasms ceased after several months under the use of the induced current—one pole on the outside of the biceps, below, and one on the belly, above, and the strongest endurable current being passed for two hours daily—and hypodermic injections of atropia in the belly of the muscle.

An officer in rugged health was shot through the forearm and arm at the same moment, as he was in the act of drawing his sword. His hand grasped the sword hilt with such a spasmodic grip that the left hand was required to pry apart the fingers.

Both the median and musculo-spiral nerves were divided and he had for many months tormenting causalgia (burning pain) in the palm. He eventually recovered from this. After the war he had frequent attacks of violent spasmodic closure of the hand, which would come on when he was holding something in the hand, and always with a sharp pain at the point of division of the median in the palm. The spasm would last two to ten minutes, and the palm was often cut by the violence with which the nails were driven into it. The pain subsided as the spasm came on, and the latter was painless.

Twelve successive blisters of the palm were followed by a disappearance of the malady, and at the end of a year it had not returned.

A plumber forty-five years old was struck on the back of the head and knocked down, in 1862. He had stiffness in the muscles at the back of the neck, and in three months his head was slowly drawn more and more to the left. Afterward he had frequently horrible spasms in the trapezius, sterno-cleido-mastoid, tracheloid and spinatus muscles. "Every minute, at least, the head was jerked backward and twisted to left, the shoulders drawn up, and a storm of rapid but energetic spasms swept over the facial muscles." He improved greatly while taking gelseminum and bromides in liberal doses.

Soon afterward he began to have spasms of the submental muscles. While eating his mouth would suddenly bé jerked open and remain so until he would close it with his hands and chew a little more, when it would return. "When ready to swallow his face presented a picture of terror. He would suddenly muster courage and swallow the contents of his mouth at a gulp. Then instantly the jaw flew open, the head was drawn back and down on the left shoulder, the face was convulsed, sweat broke from his forehead, and the attack was at an end."

One case was of spasmodic "exaggerations of walking." The patient was a boy of six, and the trouble came on slowly after an attack of measles. The left leg acted normally. "As he swung the right forward and raised the toes to avoid touching the ground, there was at first a sudden spasm of the tibiæ and peroneal muscles, so that the tip of the foot was jerked up too high." This suddenly relaxed, and as the body was raised on the ball of the foot it was lifted abruptly by a spasm of the gas-

trocnemii, which continuing jerked the leg backward—a true string halt. While at rest on his back he moved the leg without spasm.

In another case—a child of seven—there were symptoms similar to the above, but some that were different. She did not learn to walk until her fifth year. In flexing the foot and the muscles above the knee there was a rigidness, flexion being resisted by the antagonizing muscles so that the motions were made slowly and with difficulty—a condition he describes as "lead pipe leg." "Every time the foot came down the gastrocnemius muscle contracted violently," and lifted the child with a jerk. The tendons of the calf were cut on both feet, with the result of marked improvement. Intellectually this child was normal.

The next case was a sallow lad of seventeen, who had measles at the age of nine, recovering slowly with weakness of the legs. As his legs had grown strong a stiffness had come over him embarrasing his movements. The legs were developed to nearly an equal degree. While recumbent they were quiet; standing, the back was drawn into a bow, and a strong effort of the will was needed to keep the left leg quiet—spite of effort it would occasionally be jerked upward. Walking, both gastrocnemii jerked, making a string halt. When seated he kept the leg still by crossing it over its fellow. Electricity in all forms failed of any good in this case. A long series of atropia injections into the calf did a little good. Repeated cross sections of the back muscles were made at different levels, and slight benefit ensued. Finally an apparatus limiting the extent of motion was applied.

A watchcase-maker, thirty-three years old, had a bad family history. A sister, two aunts and his mother had palsies in middle life; an uncle had epilepsy and a cousin dementia. He was always nervous, never had syphilis and was well until 1865, when for two days he was unconscious from sunstroke. Ever since he had been made weak by summer heat. In 1874 he first noticed weakness of the legs in walking; he was obliged to stop as if to gain power; after which the right leg would drag for a time. Pain now occurred in the back of the neck and lumbar spine. In January, 1875, tremors began in the left arm, which increased until in three months a strange state existed. In sleep there was no movement. Soon after waking the left hand began to twitch, the fingers moving as if playing a violin. "The slightest movement of any other limb, speaking or eating" caused the arm to execute a constant motion of striking the bed or his side, the limb being the while extended. On walking this motion was exaggerated and resembled the rapid movements of a pendulum. The rate of motion was tolerably uniform, and was from 157 to 200 to the minute. It was as rhythmic as the heart beat. If the right hand was extended at a right angle with the body the rate would suddenly increase to 200, to fall back to 160 on bringing the arm at rest by the side.

"When there was no pendulum spasm he could perform with the left arm any voluntary act not involving the hand, which never ceased to twitch; but while the swinging spasms lasted he could execute no volitional act," and the effort to move the limb increased the spasms greatly.

"Excitement and emotion, and all forms of electricity added to the force of the motions, but voluntary movement of other limbs increased the number more than the force." Attempts at passive motions caused pain in the occiput.

"He has power to stop the spasm by certain manœuvres. If he seizes the left hand with the right and flexing the left arm, holds it there in a kind of general spasm, the left hand for a moment seems to struggle with increased violence; he totters; the face is convulsed; there is horrible pain in the back of the head. Then he gently releases the left arm, which, save for a slight tremor or twitching of the unquiet fingers, remains at rest, and may not move in violent spasm for an hour or more, and is sometimes nearly still for twelve hours."

There was no loss of consciousness, anæsthesia, ocular trouble or aural defect. No treatment had been of any service.

Dr. M. closes his paper by a record of three cases in which, while the patient was at rest, prone, or as in one case seated, no spasms existed; but when the upright posture was assumed there was general convulsive motions, sometimes persisting, sometimes not.

4. *Genital Irritation as a Cause of Nervous Disease, etc.* HAMILTON. (*Am. Jr. Med. Sc.*, Oct., 1876.)

"Continual morbid peripheral irritation sent from the genitals, either to the bladder, cord or medulla oblongata," may cause any of the following symptoms; paresis, including paraplegia; paresis of the muscular fibres of the bladder; disturbed sensation—hyperæsthesia, anæsthesia or dysæsthesia; priapism, local hyperæmia; choreic movements, transitory contractions; loss of consciousness, impaired memory, irratibility of temper, melancholia and dementia. Many or few of these symptoms may co-exist. In children congenital defects and bad habits, and in adults venereal excess, and more rarely stricture and urethral difficulty, seem able to cause them. Sayre has reported ten cases of children who suffered with some of these symptoms. Six of the patients were between three and four, two were two and two were five years old. Eight were boys and two were girls. "In the boys there was generally congenital phymosis with agglutination of the prepuce and glands; in the girls an elongated and inflamed clitoris. Symptoms of want of power or in perfect locomotion, adduction of the lower limbs, atrophy of the muscles of the thighs and legs, incontinence of urine, and various mental disturbances of greater or less gravity, such as hysterical laughter, irritability of temper, or imbecility, were also presented." Operation was followed by recovery in from a few hours to as many weeks.

Dr. F. H. Brown, of Boston, had a case of paraplegia in a boy of ten. There was incontinence of urine. A severe balanitis with preputial constriction existed. Recovery was rapid after circumcision.

Dr. H. relates a cases of a boy of seven, well nourished and rosy. There were irregular convulsions in the lower extremeties when recumbent. There were choreic movements of the arms. When held up he was unable

to stand, not from paresis but from lack of power of co-ordination; the legs became rigid and the toes adducted. He was unable to speak, but made "queer sounds," and he had choreic movements of the face. There was no imbecility and he seemed fearful of being hurt. His functions of nutrition were perfect, and he slept well.

He had congenital phymosis, the prepuce being firmly attached to the glans; the preputial orifice was small and surrounded by a rigid ring of toughened skin. Titillation did not cause immediate erection, nor increase of spasmodic movements. There was no sensitiveness to pressure along the spine.

Another case was that of a pale delicate girl of five who had never been able to stand. Intelligence was unaffected, no atrophy of the legs existed, nor was there lack of sensation and proper temperature. On being held upright the legs became stiff and the toes crossed each other, and one foot seemed inclined to cover its fellow. The heels were drawn up from contraction of the sural muscles. On lying upon her back the thighs were always flexed upon the pelvis, and in this position she slept. When sleeping, too, the head was drawn back by the trapezius and other muscles. The clitoris was large, cyanotic and erect. There was no history of worms.

The third case was a boy of seven. From early infancy he had had convulsion at varying intervals. They were short, the pale stage was absent and they were not followed by sleep. The bodily condition was good. A phymosis and contracted preputial orifice existed. There was no incontinence of urine.

The fourth case was a well developed boy of nine, of nervous temperament. The birth of this child was by a protracted labor and use of forceps. When two or three days old he had convulsions. He only began to talk at three years, and then with much difficulty. A year later he began for the first time to stand alone and to walk. There was no history of painful erections, but there was nocturnal incontinence. The whole body manifested choreic movements, as in the first and second cases above quoted. This was most manifested on his attempts at standing. He had phymosis, the preputial orifice only admitting a small probe.

Dr. H. infers that in these cases and cases like them, the convulsive movements, especially of the lower extremities, the spastic contractions of the flexors of the thighs and legs are connected with some irritation of the glans or clitoris; that usually in children beyond the irritability there are no mental symptoms; that exaggerated power is the rule and atrophy the exception; and that inco-ordination is common.

5. *Metrical Weights in Prescriptions.* MAISH. (*The Med. and Surg. Reporter*, Sep. 9, 1876.)

M. thinks that the difficulty of introducing this most useful and desirable system of weights in our prescription writing is due chiefly to the alteration of values which it would compel us to learn. The identity of the system with our decimal monetary system will, he thinks, make it naturally convenient.

The metrical system is now used in medicine and pharmacy as well as as in the physical sciences in nearly all civilized nations except those speaking the English tongue.

The pharmacopœias of Continental Europe express all quantities by weight, be the material liquid or solid. This is by far the best way, and once learned is most accurate and convenient. "The difficulty of writing prescriptions by weight instead of measure" has been overestimated.

Of the officinal liquid preparations prescribed for internal use, the alkaline solutions, the dilute acids and solutions of some of the salts (ammon. acet., potass. cit.) about equal in bulk an equal weight of distilled water. Tinctures and fluid extracts differ more from water and among themselves. Ether (sp. grav. .750) has a volume 1⅓ time its weight of water—three parts by weight of ether occupy the space of four parts of water. The relations of weight to volume of spts. eth. nit. (sp. gr. .837) and spts. eth. comp. (sp. gr. .815) is nearly as 4:5; of glycerine (sp. gr. 1.25) as 5:4; of syrups nearly as 4:3; of chloroform (sp. gr. 1.48) nearly as 3:2.

Remembering the relative density of officinal liquids, prescribing by metrical weights is easy. For all practical purposes one gramme is equal to 15 grs., one fluid ounce of water equals (within eight grs.) 30 grammes. 15 grammes of water, or its equivalent in other fluids, is to be taken as equal to a tablespoonful; 7.5 to 8 grammes to a desertspoonful and 3.7 to 4 grms. to a teaspoonful.

Applying these values to the heavier and lighter liquids it will be seen that

$15 \times \frac{3}{4} = 11.25$ grammes ether, $15 \times 4.5 = 12$ grms. spts. ether, nit. (or comp.)

$15 \times 5.4 = 18.75$ grms. glycerine,

$15 \times 3.2 = 22.50$ grms. chloroform, $15 \times 4.3 = 20$ grms. syrup,

Are in measure equal to about half a fluid ounce, and that the deviation from this measure is in each case considerably less than the difference in the amounts obtained by scant and full measurement with the same teaspoon, or between different patterns of that very useful domestic utensil.

The average dose of these liquids, expressed in metrical weights, are therefore:

Ether,	11.25:8 — 1.40 grms.	or ½ teaspoonful.
Spts. Eth. c. or n.	12.00:4 — 3.00 grms.	or 1 teaspoonful.
Chloroform,	22.50:8 — 2.80 grms.	or ½ teaspoonful.
Glycerine,	18.75:4 — 4.70 grms.	or 1 teaspoonful.
Syrups (some),	20 00:4 — 5.00 grms.	or 1 teaspoonful.

For conversion of grain weights of solids into grammes, close enough approximations are made by dividing the number of grains by 15.

The smallness of the error is seen by the following:

grs. lx	give 60-15 — 4.00,	absolutely 3.887,	difference	1¾ grs.
℥j	give 480-15 — 32.00,	absolutely 31.100,	difference	13 9-10 grs.
gr. x	give 10-15 — 0.66,	absolutely 0.648,	difference	less than 1-5 gr.
gr. viii	give 8-15 — 0.53,	absolutely 0.518,	difference	less than 1-5 gr.
gr. iij	give 3-15 — 0.20,	absolutely 0.194,	difference	less than 1-10 gr.
gr. ij	give 2-15 — 0.13,	absolutely 0.129,	difference	nearly 1-65 gr.
gr. j	give 1-15 — 0.066,	absolutely 0.065,	difference	nearly 1.65 gr.

In prescribing, the quantities should be expressed in grammes and decimal fractions thereof, no signs or abbreviations being necessary.

Following are sample prescriptions written in the usual manner with their metrical equivalants attached. The author thinks it must be apparent there is less liability to error by using the latter method.

℞	Pot. iodidi	ʒ ij	8.00	℞ Potass. Nitrat.	ʒ iss 6.00
	Iodini	gr. ij	0.13	Vini Antim	m. xl 2.66
	Aquae	f ℥ ss	15.00	Tr. digitalis	f ʒ i* 3.50
	Syr. sars. c.	f ℥ iiiss	140.00	Mucil. acaciæ	fl ℥ ss 20.00
				Aquæ	f ℥ iij 90.00
				Syr. Aurantii	f ℥ j 40.00

Dose, one tablespoonful, containing one gramme (15 grs.) pot. iod. and 0.016 (¼ gr.) iodine.

A tablespoonful of this mixture contains 0.66 (10 grs.) potass. nitrate, 0.0012 (1-54 gr.) tartar emetic and 0.055 (5-6 gr.) digitalis.

℞	Morph. sul	gr. i	0.066
	Pulv. digitalis	gr. vi	0.40
	Sacch. alb.	ʒ iss	2.00

M. Div. cht. No. xii.

Each powder contains 0.0055 (1-12 gr.) morph. and 0.033 (½gr.) digital.

℞	Quin. Sul.	gr. xii	0.80
	Pulv. opii	gr. iii	0.20
	Syrupi	q. s.	

Fiant. pil. No. xii.

Each pill contains 0.066 (1 gr.) quinia and 0.016 (¼ gr.) opium.

℞	Atropiæ	gr. ss	0.033
	Alcohol	q. s.	
	Adipis	ʒ j	4.00

Atropia ointment.

M.

6. *Multilocular Cerebro-spinal Sclerosis.* GERHARD. (*Phila. Med. Times*, Nov. 11, 1876.)

In remarks upon this disorder G. says the lesion consists in the developement of sclerotic patches or islands in the substance of the brain and cord. The islands are irregular in form, and in the cord are scattered, generally, throughout its whole length and without respect to its division into columns and gray matter. Some preference is shown, however, for the antero-lateral columns. In the brain the gray matter of the convolutions usually escapes; the most frequent parts effected are the walls of the lateral ventricles, the septum lucidum, the pons and floor of the fourth ventricle.

The morbid change is a localized hyperplasy of the normal connective tissue, and, through pressure and absorption, a substitution for the nervous tissue proper.

The most marked symptoms are increasing loss of power in the extremities and a peculiar tremor occurring only with voluntary movement. There are also vertigo, frequently a peculiar difficulty of articulation, some disturbance of vision, nystagmus, and a characteristic facies. The tremor

* Representing 7½ grains digitalis; menstruum diluted alcohol. (This tincture to water is as 7:8.)

is peculiar. It is usually preceded for some time by the weakness, but not always so. It does not exist during repose of the muscles. It is large and rhythmical like the movements of chorea.

The trembling of paralysis agitans is unlike that of scattered sclerosis in being constant, and lessened instead of increased by voluntary effort. In sclerosis of the posterior columns or progressive locomoter ataxia, while the movements are irregular as is the disease being considered, they are always exaggerated and more wild on closure of the eyes; in insular sclerosis a patient with his eyes closed, being told to put his finger on a given spot on the face is perfectly able to do it notwithstanding the violent tremor.

The paralytic symptoms develop slowly; they begin usually in the lower extremities, one alone it may be. The paralysis of the lower extremities may in years become complete; in the upper limbs it seldom does, and the sphincters are rarely involved. There is seldom any loss of sensibility. Treatment has been almost useless. Corrosive sublimate in small doses long continued has given transitory benefit, so has nitrate of silver, and increasing doses of hyoscyamus have lessened the tremors.

Four cases are reported. In the first—a man of fifty-seven—the loss of power in the legs began seven years before. A year later the arms began to fail in strength, and then was there first noticed tremors or movements in all the extremities. Later his speech was effected, and in three years he was unable to work. The patient walked with a cane, moved slowly and with difficulty could raise the feet from the floor. There was no muscular wasting, or loss of sensibility or electrical response. The mind was impaired, the speech thick and deliberate, the eyesight poor and beginning atrophy of the fundus.

In case two there was the same order of occurrence of the weakness but the tremor began in the upper extremities. There was giddiness and the face was drawn to one side. There was no speech difficulty. The weakness and tremors were the cardinal symptoms.

Case three differed from the preceding in that the muscular trembling was noticed before the weakness. The gait was shuffling, and there was a tendency to festination. There was occasional vertigo and the eyes were normal.

In case four there were the typical symptoms, and in addition a condition of half idiocy. There was a subjective feeling of numbness, but the æsthesiometer proved the sensibility to be quite normal.

7. *The Cure of Diphtheria.* CIALTAGLIA, of Rome. (*Lancet*, Oct., 1876.)

Dr. C. reports eight cases to illustrate his flattering success with the use of large doses of chlorate of potash internally and hydrate of chloral locally in this affliction. All these cases recovered. The chlorate of potash is administered in solution of 20 grammes to 140 grammes of water —a tablespoonful being given every one to three hours, according to the age and severity of the case.

The chloral is dissolved in glycerine (four to twenty grammes respec-

tively) and the diphthertic spots are touched with the mixture three or four time daily.

"The moment the chloral and glycerine was applied the false membranes ceased to spread, while the characteristic fetor from the mouth entirely disappeared on the first, or, at latest, the second day of application."

8. *Nestlé's Food for Babies.* PUTNAM. (*The Boston Med. and Surg. Jour.*, Nov. 9, 1876.)

Nestlé's Lacteous Farina, made in Vevey, Switz., is claimed to have some advantages over the other numerous preparations of food that are in use here, namely: Its dry form and the mode of preparation for use—water only being used. The food consists almost entirely of milk in the form of powder, and is mixed with bread baked for the purpose from the best flour. The crust being the most nutritious part is alone used. The milk is obtained fresh from the dairies; after having been tested it is received into steam heated vessels, and condensed in a partial vacuum at a nearly uniform temperature, not above 120° F. The product of this is a fine powder of milk and bread crust.

Lebert, on examination, found grains 1-12500 of an inch in diameter, and fragmentary parts of starch. The food is easily prepared for use, one part is mixed with from six to ten parts of cold water, which is then boiled while stirring. Any unskilled hand may prepare it.

Ehrendorfer, of Vienna, has reported 20 poorly nourished and 40 sick children averaging from five to twenty months old. Fifty-one of these continued to take the food until they were well, while the balance of them discontinued its use, either because they disliked it or because they failed to improve.

Ehrendorfer claims that the food is especially valuable in all cases where the mother's milk is not sufficient in quantity, and in diarrhœal diseases caused by weaning. The author's experience with the food is essentially the same as that of Ehrendorfer, and he concludes by saying that "generally it was well liked and well borne, occasionally it was not retained by the stomach or was not liked by the baby." W. F. L.

II. SURGERY.

1. *A New Method of Examining the Affections of the Vocal Cords.* KLEMM. (*Arch. d. Heilk*, No. 6, 1876.)

The readiness with which a small flame is set into motions by the vibrations of the air has been utilized by Dr. Klemm for taking photographs, as it were, of the normal and abnormal vibrations of the vocal cords. His apparatus consists of, 1, a large cube rotating on a perpendicular axis, with its four vertical sides lined with glass mirrors; 2, a gas burner terminating in a fine point, so as to give a very small pointed light. To this burner are attached a wide speaking tube of rubber and another rubber tube

which furnishes the gas. The speaking tube and gas tube are separated by a very delicate membrane of caoutchouc. Any tone spoken or sung into the speaking tube sets this thin membrane in vibrations, which are communicated to the gas and the light; the light thus responds to the feeblest vibrations of that membrane. The cube is placed about eighteen inches in front of the light, and the room is darkened. If the cube then is made to revolve with moderate speed on its perpendicular axis, the quiet light reflected by the glass mirrors gives the observer the impression of a continuous light streak; but if the light is moved by the vibrations of a tone sent through the speaking tube, flashes shoot up from the light streak in regular intervals. These flashes have a very regular shape, like the long sharp teeth of a saw, and are separated by regular narrow, but deep, indentations. The shape and height of these light teeth depend, 1, on the pitch of the tone uttered; 2, on its power; 3, on the vowel uttered; 4, on the quality of the voice. As the first three conditions can easily be controlled and made uniform for a series of observations, we can from the images of the light teeth draw certain conclusions concerning the vibrations of the vocal cords.

In a series of drawings executed by a skillful artist, the salient features are illustrated in the images produced by normal and abnormal vibrations of the vocal cords. The high tones of the musical scale produce single long teeth; by middle tones these teeth are split in two, each pair of teeth being separated by a deep indentation from the next one, and the lower tones are characterized by groups of three or four teeth; but all these teeth ending in a sharp distinct point. By a moderate degree of hoarseness the points become blunted, the teeth broader and shorter, and the indentations shallower.

The pictures of very hoarse voices show a great irregularity of the teeth in length and width, so that the light streak resembles a row of fringes; and in a case of excessive hoarseness (as due to paralysis of the vocal cords) the teeth become so short and indistinct that the whole streak looks more like a scalloped ribbon.

2. *New Method of Curing Phymosis.* GRIFFITH. (*British Med. Journal*, No. 823.)

Three cases of phymosis are reported in which the surgeon did not perform any of the usual operations, but enlarged the aperture in the prepuce by distention. This dilatation may be effected rapidly, in one sitting, especially if we do not mind splitting the mucous lining of the foreskin, or it is accomplished gradually in two and more sittings. In the first case the patient had a very slight stricture of the prepuce, which was effectually dilated by means of a forceps something like the ordinary uterine dressing forceps. The pain was very trifling. In the two other cases the patients had never been able to uncover any part of the glans except the very mouth of the urethra. These cases were cured by gradual dilatation, which the doctor describes thus: "I grasped the penis with the fingers of both hands, and partly by retracting the foreskin, partly by projecting forward

the glans penis, I commenced this wedge-like dilatation, and soon had the satisfaction of seeing an area of surface around the mouth of the urethra." This procedure was repeated every other day until the phymosis was cured so as not to be likely to return. An injection of some oil under the foreskin, previous to each sitting, seems to facilitate the dilatation and to shorten the whole treatment.

3. *Boracic Acid as an Ordinary Dressing for Wounds.* CANE. (*London Lancet*, Aug., 1876.)

The writer calls attention to the use of boracic acid as a *simple* dressing, altogether apart from the antiseptic system, for all kinds of wounds. While the advantages of Mr. Lister's method are acknowedged, Dr. Cane claims that we want something which, while it has to a certain extent the merits of Lister's method, is without those tedious details, and which can be readily used without assistance.

After an extensive trial of the acid for some months, the author has secured better results than from the ordinary methods of dressing. The most convenient forms for use are the boracic lint, cotton wool, a concentrated watery solution of acid, and boracic ointment.

Boracic lint is prepared by soaking lint in a saturated *boiling* solution of the acid. Upon drying the lint a deposit of fine, flaky crystals takes place between its fibres. Cotton wool is similarly prepared, and when dried and picked out forms a very useful dressing. The concentrated solution is made by dissolving the acid in boiling water to saturation. The ointment is made by rubbing down one drachm of the acid with one ounce of simple ointment or benzoated lard. Boracic acid, unlike most antiseptic agents, is blank and unirritating, but being non-volatile it is less useful in some cases than carbolic acid. The author recommends the boracic lint to be used in a dry state. I have, however, seen it used in a wet state by Prof. Gunn, of this city, in the case of a compound injury of the ankle joint, with the most gratifying result.

Dr. Cane has found the acid very useful in skin grafting. The surface to which the grafts are to be applied is first well cleansed by applying the boracic lotion some days, till the discharge is free from putrefactive ordor. The skin from which it is intended to take the grafts is also well washed with the lotion. The grafts are applied to the raw surface in the usual way, after which they are protected by strips of gutta percha tissue dipped in the boracic lotion, and a piece of boracic lint placed over all.

4. *A Simple Mode of Extracting Calculi Arrested in the Urethra.* WILL. (*London Lancet*, Aug., 1876.)

Dr. Will succeeded, in two cases, by means of a silver wire, in removing calculi arrested in the urethra. One case was complicated with stricture. A loop of tolerably thick silver wire was passed through the stricture and behind the calculus. After some manipulations the latter became engaged in the wire loop, and although slipping from the loop more than once, was finally withdrawn. The second case was that of a child, the calculus having lodged in the bulb of the urethra.

5. *Removal of a Button from the Bronchus.* (*London Lancet*, Aug., 1876.)

The patient, aged 13 years, accidentally slipped the button into his trachea, April 23d, where it remained without producing very serious symptoms until May 11th, when it fell into the left bronchus, producing symptoms of collapse of the lower lobe of the lung. Mr. Maundee having performed tracheotomy, first inverted and shook the patient, but without success. He then placed the patient on his back and pressed through the wound into the left bronchus about seven inches of looped silver wire, and was successful in withdrawing the button, together with a quantity of muco-purulent matter. The urgent symptons disappeared.

6. *Embolism of the Pulmonary Arteries in Consequence of the Application of Elastic Bandages to the Lower Extremities.* MASSARI. (*The Boston Med. and Surg. Jour.*, June 29, 1876.)

* The bandages were applied after confinement in which the patient, in consequence of placenta prævia, had become extremely anæmic. The symptoms of anæmia disappeared remarkably quickly and returned again immediately, when, in consequence of violent pain, the bandages were twice loosened, for a short time. Their third removal, thirty-two hours after delivery, was followed by sudden collapse, dyspnea, violent heart beats, and death in two hours, in spite of a re-application of the bandage s Clots were found in the pulmonary arteries of the third order, and similar ones in the varicose saphena veins. The author regards the bandaging as the cause of the coagulation, and considers its employment contra-indicated by a varicose condition of the veins. He also gives a caution against the too prolonged application of the bandages.

7. *Extirpation of the Parotid Gland by the Galvano-Cautery.* (*Med. and Surg. Reporter*, Sept. 2, 1876.) [Translated by Jno. B. Roberts, M.D., of Philadelphia.]

The patient, a man aged 58 years, had had, for nine months, lancinating pains in the left ear, radiating over the whole side of the head. There was some paralysis of the face. When the patient opened the mouth he became aware of a mechanical impediment between the jaw and the ear. Prof. Carradi diagnosed a tumor of the parotid gland, either carcinoma or enchondroma, compressing the left facial nerve, and decided upon extirpation of the gland. In order to avoid hæmorrhage and have the field of the operation clear, the galvano-cautery was employed. A vertical incision was made, extending from the zygoma to a point below the angle of the jaw, being almost half an inch in front of the attachment of the external ear; a second incision started from the lower angle of the masseter muscle and reached the mastoid process. These cutaneous wounds having been dried, a steel knife, made white hot by the galvanic current, was employed and the whole gland was separated from the surrounding tissues from below upward. During the last part of the dissection, the external

* Translation.

carotid having been exposed, two ligatures were applied and the vessel divided.

At the end of 20 days the patient was well, but the paralysis of the left eye and side of the face persisted. Subsequently a swelling of the left lateral region of the neck appeared, showing a recurrence of the disease, which the microscope had proved to be scirrhus.

8. *A new View of the Pathology of the so-called Phlebitis.* NANCUDE. (*Philadelphia Medical Times*, Aug. 19, 1876.)

As to the pathology of so-called phlebitis, this paper supports the theory that thrombosis is the primary affection, the inflammation being secondary in the order of occurrence. The author, as well as some of the modern pathologists, denies the existence of adhesive inflammation of the veins, as indicated by an effusion of plastic lymph upon the intima, causing a secondary thrombosis. The experiments of Gendrin long obtained credit and gave support to the doctrine of adhesive phlebitis till Lee and Callender proved their inaccuracy. Frances showed by specimens that veins after ligature or division repaired without adhesive inflammation.

It is difficult to conceive of a non-vascular tissue, such as the intima, initiating inflammatory changes. Then, too, some lymph effused, it is not easy to understand how it could remain in its soft semi-fluid condition attached to the vascular walls long enough to form false membrane, or by its roughness to indicate coagulation of the blood. On such grounds the author feels compelled to strike out the term phlebitis and substitute that of thrombosis.

Dr. Nancude's "New View of the Pathology of Phlebitis" is based upon the demonstrations of Alex. Schmidt, to the effect that fibrine, as such, does not exist in the blood, but when a clot forms it is due to the union of two substances always present in the blood, namely, fibrinoplastic and fibrinogen. The former is present chiefly in the blood cells, and the latter is the result of the retrograde metamorphosis of tissue, and is found in the serum. Before these observations were published there was no satisfactory explanation of the so-called hypermosis, so constant an attendant in rheumatic fever, traumatism, pneumonitis, and in the puerperal state. Increased tissue waste with inadequate action of the secerning organs result in an immense excess of the fibrino-genetic material. Particularly is this the case in the puerperal state, where we too frequently see thrombosis, and where an enormous mass of uterine tissue is absorbed in the short space of six weeks, the greater part of this absorption taking place during the first ten days. Under these circumstances it must be evident to what degree the blood is surcharged with fibrine-forming substance.

The views usually entertained concerning the immediate cause of the thrombosis really amount to nothing, for they refer us to some unknown condition of the system. The author claims that his own views of its causation render it perfectly plain. In all cases of this affection the wound is eminently unhealthy, and it is therefore in a condition that

favors the absorption of the products of retrograde metamorphosis; that is one factor. The other is that in natural hæmostasis, after any lesion of continuity, we have a clot sealing the opened ends of the vessels. When the retrograde products reach the plugged vein by the next uninjured collateral, they meet here the fibrino-plastic substance in the hæmostatic plug, and we have a thrombus formed, extending toward the heart. The next collateral above brings in fresh fibrino-genetic matter which meets the thrombus and it again extends. The clotting ceases only when no more collateral veins pour in blood coming directly from the disease focus, and therefore loaded with fibrino-genetic matter.

Post mortem reports* furnish evidence which sustains the views herein expressed, the clot always ceasing when no more impure blood is poured directly into the affected veins, rather than where the main vein joins the diseased one according to most writers. The paper concludes with a consideration of the practical bearing of this new pathological view on prophylaxis and treatment, viz.: To remove or render inert all dead or dying tissues and inflammatory products, and avoid caustic and irritating applications likely to chemically or mechanically injure the granulations; thus rendering them capable of absorbing.

Mr. Lister and his adherents think that the excellent results of the modern management of wounds are owing to the destruction of microscopic organisms; Dr. Nancude to the rendering inert retrograded substances, and to the prevention of such retrogression, in conjunction with the avoidance of any injury whatever to the granulations.

9. *Fracture of Cranium Dating Back 30 Years; Persistent Fistula; Integrity of Cerebral Function for 30 Years; Signs of Compression; Trephining and Cure.* CRAS. (*L'Union Médicale*, No. 153.)

Last October the reporter was summoned to a patient in a state of profound coma, with purple features, relaxed limbs, stertorous respiration and pulse between 120 and 130. The forehead was evidently protruding and was the site of a cicatrix traversed by a fistula. The patient's wife informed the surgeon that the cause of this fistula was a fall which the husband had many years before. This had produced a wound which had completely healed, but had always discharged a little matter. For four or five years afterward the husband had suffered greatly; his intellectual faculties, formerly unimpaired, became weakened. She had noticed the occurrence of crises which coincided with the cessation of the discharge from the frontal fistula. Cras applied Vienna paste and explored the fistula for several millimeters without encountering denuded bone.

At evening the incision of the eschar gave exit to an abundant discharge of viscid pus, under the influence of which the patient recovered consciousness and gave full details of his case, stating that the accident had occurred 38 years before. For five years he had been unable to labor. Suffering as he did from persistent cephalalgia with progressive amnesia,

* Holmes' System of Surgery, vol. iii., p. 361.

left hemiplegia and frequent accesses of fever. During the preceding 18 months his health had been worse than heretofore.

Cras decided that a large purulent collection was compressing the right hemisphere, and in spite of the amelioration already produced, and in the face of much opposition from the patient's family, insisted upon further operative procedure.

Local anæsthesia was induced by the employment of ice and sea-salt, when the operator (Jules Richard assisting) denuded the frontal bone to the entire extent of the fistula by means of an incision, involving all the superficial tissues and periosteum. The wound being dried, a large trephine was applied and made to penetrate slowly the thickened layers of the hypertrophied frontal bone. The instrument was succeded by the gouge and mallet, which were necessary to remove the superficial layers of the bony disk, when the trephine was re-applied, and at last its inferior segment had tapped the inferior wall of quite a large cavity, which gave exit to several drops of pus immediately. With a few more turns of the instrument the disk was loosened and the elevator, introduced at once, broke away a long bony plug. At the same time a stream of greenish pus bathed the face of the patient, the exit occurring by jets synchronous with the beating of the pulse. The quantity thus escaping measured 250 to 300 grammes.

The cavity was washed out with tar emulsion and the wound dressed with charpie, the patient exhibiting a remarkable return of intellection.

After some delays the case progressed with astonishing results. The intelligence was perfectly restored, the patient soon reading, writing and attending to his daily affairs. Meantime a small silver cannula was kept in the wound as a drainage tube, 1 mm. in diameter. One year afterward the patient still wore, by way of precaution, a small cannula, which was left open at night, and which contained only three or four grammes of a clear limpid fluid. The restoration of muscular vigor was proportioned to the cerebral energy.

"It was a true resurrection," concludes the author, "and when I saw him lately jump leisurely into a tilbury, and drive a spirited horse with one sure hand, I experienced a genuine satisfaction in thinking of the wretched and blinded imbecile transformed so happily by the intervention of surgery."

10. *Luxation of the Foot Backward.* COURBIS. (*Lyon Médical*, No. 48.)

A young man who was engaged in play with older and stronger companions accidentally fell to the ground upon the back, while his left foot was engaged beneath the body of his adversary who also fell. The foot was thus forcibly extended.

When examined, immediately after the accident, little swelling had occurred. The dorsum of the foot was slightly shortened by reason of the propulsion forward of the tibio-fibular articulation. The anterior articular edge of the tibia projected to a marked degree, and had ridden over the

astragalus, from which it was separated by a very distinct depression. The foot was at right angles to the leg, without deviation to either side.

The two malleoli displaced forward projected moderately, especially on the internal face of the member—the moderate swelling elsewhere masking this feature. The fibula was not fractured.

Posteriorly the injured limb offered a striking contrast to that which was unaffected. The heel seemed to be enlarged in consequence of the displacement forward of the malleoli. The tendo Achillis, which had partly followed the tibia, formed a curve, whose concavity was posterior, and was much more marked than on the opposite side. Tracing the course of each side upon a sheet of paper and describing a vertical line at right angles to the sole, is was found that the greatest distance between the arc and the chord of the sound side was 17 mm., while the greatest distance between the points on the side of the luxation was 39 mm.; showing that the tibio-peroneal displacement was at least to the extent of 24 to 25 mm.

The looseness of the union between the tendo Achillis and tibia shows that the real displacement of the bone is somewhat more considerable than is indicated by the tracings.

Movement of the part was restricted to slight flexion, and extension accompanied by intense pain.

Anæsthesia having been produced, the reduction was readily affected by seizing the heel with both hands, while the thumbs pushed back the two bones of the leg. The injured limb was then placed in the silicated dressing, though there was no tendency to reproduce the displacement. Result: Complete recovery.

The interesting points in the case were, (*a*) the rarity of the lesion. (Malgaigne collected but 18 cases of this kind.) (*b*) The absence of fracture described by many authors as well nigh constant. (*c*) The readiness of reduction, due to the anæsthetic and absence of fracture. (*d*) The mode of production of the injury—forced extension of the foot upon the leg and forward movement of the tibio-peroneal body.

11. *Extensive Compound Fracture of Skull and Loss of Brain Substance. Recovery.* SLOCUM. (*The Med. Record*, Dec., 1876.)

An extensive compound comminuted fracture of the skull, with escape of brain substance, and severe hæmorrhage from the middle meningeal artery, happened a lad of 15 years. He remained in a comatose condition for 15 hours; after which time co-extensive symptoms of concussion and compression were developed. Operation was made 22 hours after accident. Found fracture involved right parietal bone in its posterior inferior edge and angle, extending into occipital. Two of the largest fractured pieces, measuring 2⅝x1½ inches, were turned inward pulpifying the brain substance to a depth equal their width. The wound discharged freely of the broken brain during and after the operation. The end of the third week the hemisphere had "settled back to its normal position, followed by the scalp," leaving a depression of an inch. The mental faculties, though slow in action, were in a measure restored. The author

concludes by saying: That this case argues against the policy of non-interference, and that an opening through the scalp and skull, sufficient in size to allow the entire escape of fluids, should be left. W. F L.

12. *On the Use of the Balsam of Peru.* WISS. (*Deutsche Med. Wochenschr.*, 1876, No. 48.)

In a paper read before the Berlin Medical Society, Dr. W. summed up his experience with the Peruvian balsam as follows:

The balsam, at first moment when applied to the wound, causes a slight burning, but afterward all pain ceases, even in the most severe and painful wounds.

Fresh wounds never inflamed under this treatment; and in inflamed wounds the inflammation quickly subsided.

The balsam prevented supperation, and putrid decomposition was not observed in a single case, notwithstanding the most unfavorable local and climatic conditions under which the patient had to live.

Even lacerated wounds showed a great tendency toward healing by first union. One night the doctor was summoned to attend a young man whose scalp had, by some blunt instrument, been torn into three flaps, so that the skull was laid bare to great extent. The bleeding arrested and the wound cleaned, Peruvian balsam was freely applied on the raw surfaces, which then were dressed with a simple compress. The next day the wounds were healed except a small spot in their center which also closed up in a few days, without the discharge of a drop of pus.

The anti-purulent property of the balsam induced Dr. W. to test its efficiency in cases of chronic pulmonary catarrh with a copious muco-purulent secretion. He gave the balsam in an emulsion of the yolk of eggs (℥j ad ℥iv, a tablespoonful every two hours). Two elderly persons afflicted with chronic blennorrhœal bronchitis for several years, were completely and permantly restored, the one within ten days and the other within three weeks.

III. OBSTETRICS AND GYNÆCOLOGY.

1. *Fatal Hæmorrhage in the Case of a Pregnant Woman affected with Varix.* POLAILLON. (*Gaz. Obstetric*, October 5, 1876.)

A young woman, twenty to twenty-five years old, by occupation a laundress, was in the habit of walking every morning from Gentilly to St. Jacques, though affected with varicose veins of the legs. One morning, after her usual walk, she noticed blood escaping from a wound in the leg. The hæmorrhage becoming abundant, she was placed on a litter and carried to the Maternity Hospital, but died before arriving in the ward.

A living child was extracted by the Cæsarean operation, but died a few instants after. A small circular wound was discovered over the internal malleolus of the mother, whence the hæmorrhage had proceeded. The

garters surrounding the limb above the knee had produced there a marked constriction.

Instances of this sort are rare, but yet have been noted. P. had observed one case a few years before, where death resulted in the case of a woman who injured a varix of the leg upon the step of a stair which she was ascending.

Cazeaux cites an analogous case of hæmorrhage from the labia majora, which resulted in death. A varicose vein of the vulva had been ruptured, and it was believed that the hæmorrhage came from the uterus. In the discussion of this case before the Société de Médecine, it was thought that the albuminuria of pregnancy might have some etiological significance in the explanation of the fatal issue, as well as the myo-carditis, which is relatively frequent in the puerperal state.

2. *Active Hæmorrhage produced by Coitus.* CRANDALL. (*Med. and Surg. Reporter*, October 28, 1876.)

The patient was thirty-five years old, and had been married three weeks. She had been flowing profusely since the first coitus, and was getting very weak. An examination (with speculum) discovered the blood to come from the inside of the uterus. This organ in position, shape, size and appearance was normal. It was learned that she had just ceased menstruating when this first sexual act occurred, and it was inferred to be a case of "intra-uterine hæmorrhage, produced by coition taking place soon after the menstrual flow had ceased, and while the ovaries and uterus were in a highly congested state."

Ergot and gallic acid in liberal doses failing to at all lessen the flow, the tampon was resorted to, when, this failing, the unguentum ferri was applied to the intra-uterine walls with Burnes' uterine ointment positor. This stopped the flowing, and the recovery was only retarded by a slight fever.

The author mentions another case of a similar sort, occurring several years previously, where a woman the next day after her marriage was attacked with a hæmorrhage while sitting at dinner, the flow being so profuse as to come "near proving fatal."

[A case has come to our knowledge recently where a first coitus in a young girl caused such a hæmorrhage as to frighten her paramour, and cause him to run to a doctor for some styptic medicine. From his description it must have been some solution of iron. On being applied to the orifice of the vagina, it quickly checked the bleeding, and we infer hence that the accident was a sudden rupture of the hymen. The young woman —an unusually vigorous person— was so much debilitated that she was obliged to keep her bed for several days.—EDS.]

IV. Therapeutics.

1. *Glycerole of Nitrate of Bismuth.* Squire. (*Pharm. Journal.*)

Dr. Squire finds that nitrate of bismuth is freely soluble in glycerine without the addition of water, and suggests its use as a bland and mild astringent in diseases of the throat, larynx, vagina, uterus and urethra.

J. S. K.

2. *Bromide of Potassium in Hæmorrhage.* (*New Remedies.*)

It has been asserted that this agent induces contraction of the blood-vessels, and Dr. Genenal (*L'Union Médicale*) has used a local application in the treatment of epistaxis, uterine hæmorrhage and coryza. It should also be given internally. In coryza two injections of a saturated solution into the nose give relief in an hour, and a permanent cure is effected in about six hours. J. S. K.

3. *Antidotes of Arsenic.* Rouyer. (*New Remedies. Canadian Journal.*)

R. as the result of many experiments publishes the following:

1. Hydrated sesquioxide of iron, recently prepared, (gelatinous and brown) is an antidote for arsenious acid, but not for arseniate of potash nor for the arseniate of soda.

2. At a longer interval than an hour it is useless to attempt recovery from poisoning by arsenic.

3. For arsenite of potash and arsenite of soda the author proposes perchloride of iron in conjunction with magnesia.

4. The mode of administration is the officinal solution of perchloride of iron, and half an hour afterward magnesia in the proportion of a drachm to 3¼ fl. ozs. of perchloride.

5. This of perchloride iron and magnesia is also an antidote for arsenious acid. Therefore, it is preferable to employ it always in cases of poisoning by arsenic or its compounds.

6. An hour after the administration of an antidote it will always be well to employ a purgative, in order to expel the ferrated arsenic which is formed, and as this arsenite is soluble in acids to avoid acid drinks and lemonades. J. S. K.

4. *Emulsion of Cod Liver Oil.* (*Druggists' Circular.*)

Cod liver oil	4 ounces.
Glyconine	9 drachms.
Aromat. spts. ammon.	1 "
Phosphoric acid dilut.	4 "
Essense bitter almonds	2 "
Sherry wine or brandy	16 "

Glyconine is made by adding five parts, by weight, of concentrated glycerine to four parts of yolks of eggs well beaten. J. S. K.

5. *Strong Solution of Salicylic Acid.* (*New Remedies.*)

Salicylic acid	ʒj
Potassium, sodium, or ammonium acetate	ʒj
Glycerine	ʒj
Water q. s. ad	℥j

Mix and dissolve by shaking. This solution contains one grain of salicylic acid in eight minims, and is largely used in Bellevue and other eastern hospitals. J. S. K.

6. *Bromide of Lithium.* (*Southern Med. Record.*)

Dr. Rouband writes in the *Revue de Thérapeutique* as follows of this drug: "1. Bromide of Lithium is a drug which has a twofold action. 2. It possesses in a high degree the lithontriptic qualities which are universally recognized in the salts of lithia. 3. It affects reflex sensibility in a more energetic manner than the other bromides, without the unpleasant effects upon the heart which the bromide of potassium has. 4. Consequently it takes its place in the first rank of antilithic and sedative drugs, and its action is especially valuable in cases of the uric acid diathesis which are accompanied by painful phenomena." J. S. K.

7. *Liquid Bismuth or Elixir Bismuth.*

The following is the formula adopted by the American Pharmaceutical Association:

Ammonio citrate of bismuth	256 grs.
Warm distilled water	1 fl. ounces.
Water of ammonia sufficient to neutralize simple elixir	15 fl. "

Mix and filter. J. S. K.

8. *Nitrite of Amyl.*

Nitrite of amyl has been tried, says the *Dublin Journal*, both in corea and intermittent fever. In corea inhalations of from 3 to 6 drops were order three times a day, arresting the convulsions in three cases at the end of two weeks. In intermittent fever it has aborted the chill and shortened the latter stages, but does not prevent a recurrence. Thirty drops have been administered as a dose with advantage in this fever. J. S. K.

9. *A New Anti-Pruritic Remedy.* BULKLEY. (*Trans. Amer. Med. Asso.*)

Dr. B. offers to the profession the following formula:

℞ Pulv. Gummi Camph. / Chloral Hydrate.	aa	ʒj
Ung. Aquae Rosæ		℥j

M.

Rub the chloral and camphor carefully together till fluid results, then add slowly the ointment, mixing well.

This, when applied to the healthy skin produces no effect; but possesses great power in arresting itching without over stimulating the parts. It does not answer when the skin is at all broken; it is then necessary to employ other less irritating agents; but the burning sensation caused on its first application lasts but a few moments, while the relief occasioned will last for hours, or even a whole day. J. S. K.

10. *Pain Produced by Chloral Hydrate.* MORGAN. (*New Remedies.*)

M. writes to the *British Med. Journal:* "I have so frequently observed a peculiarity following the use of chloral, which I have not yet seen recorded in any medical book or periodical, that I feel sure that it will be interesting for others, to describe it. In several cases where I had given chloral hydrate in ordinary doses (generally where it had been continued for several days at least) a feeling of pain is experienced all over the body, sharper than that of chronic rheumatism, and often so sharp as to make the patient beg for relief. In each case I have found no relief obtained until the chloral was discontinued. It seems to me to be a general hyperæsthesia of the cutaneous nerves, but sometimes localized in one particular spot. Tincture of gelsemium gives relief to the pain sooner than other remedies." J. S. K.

11. *Salicylate of Quinine as an Anti-Pyretic.* BROWN. (*Edinburgh Med. Journal*, Nov., 76.)

In an article on the above subject, accompanied by four temperature charts, Dr. B. says:

This salt is unsoluble in water, but dissolves readily in certain acid solutions, and tolerably easily in cold, still better in hot, alcohol. In the cases in which it has been administered the dose has ranged from 10 to 40 grs., according to the age of the patient and the mode of administration; 30 grs. in most cases being sufficient. Its anti-pyretic action usually begins in about an hour if it has been administered by the mouth, and continues for some hours subsequently. In some cases the temperature has fallen as much as five degrees in the course of three or four hours. Simultaneously with this anti-pyresis the pulse becomes slower and softer, the respirations also diminish in frequency, the skin becomes cool and moist, and generally the condition of the patient is much improved. He expresses himself as cool and comfortable, and sleep usually follows.

The action of salicylate of quinine is free from the profuse sweating which attends that of salicylate of soda; and, on the other hand, the ringing in the ears and deafness which are occasioned by free doses of sulphate of quinine are hardly noticed after the administration of salicylate of quinine if an over dose be not given. The vomiting which large doses of sulphate of quinine so often produce is entirely absent after the exhibition of salicylate of quinine, nor has albuminuria ever been noticed.

With regard to the mode of administration, it may be given by the mouth either dry (in wafer paper) or suspended in mucilage or in water; but in severe cases, especially in enteric fever, it is best given as an

enema, suspended in mucilage, with a small quantity of laudanum to soothe the mucous membrane of the rectum. In this case its action is not so rapid as when given by the mouth, but in about two hours the effect becomes apparent. J. S. K.

12. *Salicin in Chronic Diarrhœa.* (*Am. Med. Bi-Weekly*, Jan. 6, 77.)

In a paper read before the Medical Society of the County of Kings, Brooklyn, N. Y., Dr. Mattison speaks most highly of salicin in chronic diarrhœa; quoting numerous successful cases of treatment.

The doctor considers salicin, tonic, astringent, antiseptic, and anti-fermentive, anti-periodic and finally alterative. It can be administered in pill, powder or solution. To adults in doses of five grains each four hours; to children under two years in doses of from one-half to two grains. Where improvement is not noticed within a week increased frequency of dose is advised. Careful attention to dietetic details and hygenic surroundings should always be observed.

The doctor commends salicin as a drug of unequaled power in chronic diarrhœa, and his success and earnest advocacy warrant a fair trial of the medicine by the profession. J. S. K.

V. Ophthalmology.

1. *A case of Acute Glaucoma, caused by one single instillation of Atropia.* Magnus. (*Klin. Monatsbl*, XIV, p. 386.)

A healthy farmer, aged 74 years, applied for the extraction of cataract. The examination showed a mature senile cataract in both eyes, normal anterior chamber, normal mobility of the iris, normal tension of the eyeball and a precise perception of light in every part of the visual field. As the patient was ready to undergo the operation the following day, Dr. M. put a drop of a solution of atropiæ sulphas in each eye, because he wished to examine carefully the cataracts when the pupil would be fully dilated. The patient, who lived in a suburb, returned home after the consultation. The next morning, however, he did not come back to town as he intended, but Dr. M. received a note from the farmer's wife, informing the doctor that about five hours after the instillation of atropia, the right eye had become very red and painful, and the patient was suffering such pain in the right side of his head that he was unable to leave the bed. Dr. M. suspecting the possibility of glaucoma, at once sent back the urgent order to bring the patient to him without delay. But the patient did not come till three weeks later; he had suffered the most agonizing pain all the while. The right eye showed the typical picture of acute glaucoma in that stage when the inflammatory attack is on the decrease. A complete dilatation and immobility of the pupil, a shallow anterior chamber, a marked vascular injection around the cornea, a great increase of the hardness of the eyeball, and a considerable limitation of the per

cëption of light, the patient being able to perceive a large light only when held right in front of the right eye. The left eye showed the same condition as at the first consultation.

2. *Foreign body in the eyeball for fourteen years without disturbing the sight.* MARTIN. (*Receuil d'Ophthalmologie*, Oct. 1876.)

About five years ago an employee at a marble work presented himself to the doctor with pain, photophobia, lachrymation and redness of the left eye. He stated that every spring and fall of a good many years past, without any appreciable cause, he had been seized by similar attacks which caused him much pain and confined him to the room during a whole month.

The focal examination detected the presence of a dark rounded body, not larger than the head of a pin, resting on the crystalline lens and riding on the inferior outer border of the pupil. When the patient was informed of the presence of a foreign body in his eye, and he had given this matter a few moments' thought, he distinctly remembered that the first inflammation of his eye followed a contusion of the same by a piece of marble, that happened fourteen years ago, and ever since then the inflammation recurred every year. No sign of lesion could be found in the cornea. For the removal of the foreign substance, a broad linear incision was made through the lower external margin of the cornea and the aqueous humor was allowed to escape very slowly for fear lest the foreign body would drop down behind the iris. With a pair of forceps that body (which proved to be a triangular piece of black marble,) was easily seized and extracted. The iris protruding a little through the wound, a portion of it was excised to prevent the formation of a hernia of the iris. The pain left the eye, the wound healed kindly, the eye has never since been troubled and still has a perfect vision. It is very remarkable that in spite of those frequent attacks of recurrent iritis there were neither any posterior synechiæ nor any exudition on the anterior surface of the lens.

3. *Blepharoraphia Medialis.* ARLT. (*Wiener Med. Wochenschr.* 40, 1876.)

Under this name Prof. A. describes an operation for shortening the palpebral aperture from the inner canthus as the tarsoraphy does from the external canthus. He pares the free border of each lid from the lachrymal punctum to the inner canthus. The wounds thus established measure two to three millimetres in width and seven millimetres in length ; they meet at the inner canthus in an acute angle like the two lines of the letter V. Particular attention must be paid to a careful paring of this junction of the two wounds, else first union will not take place there, and an annoying fistula will remain. The slight bleeding arrested, three stitches generally are sufficient to bring the pared edges in perfect coaptation. To secure a kind healing the occlusion of the eye by a bandage during two or three days is advisable. Prof. A. finds this operation especially useful in cases of eversion of the lower lid, caused by paralysis of the facial nerve. In

those cases the lower lid (especially its inner or nasal portion) has sunken down a little and does not perfectly hug the eyeball any more. The sequelæ of this displacement of the lid, are epiphora and irritation or inflammation of the conjunctiva and cornea. In two such cases, Prof. A has performed the above operation with this result, that the lower lid was raised and its border was brought nicely in contact with the eyeball; and that with the readjustment of the lid the epiphora and other sequelæ were efficiently stopped.

VI. Syphilis and Venereal Diseases.

1. *Gonorrhœal Balanitis.* Darvosky. (*Memorabilien*, 1876, No. 10.)

The inflammation of the prepuce, caused by gonorrhœal virus, produces a great œdema of the prepuce and a copious secretion from its mucous membrane. We are often warned, under such conditions, not to draw the prepuce back for fear of inducing paraphimosis. Dr. D., on the contrary, insists upon drawing back the prepuce in order to thoroughly cleanse the parts, and to apply the medicine directly upon the inflamed surface. After all the secretion is washed off, the whole everted surface of the prepuce is pencilled over with a solution of nitras argenti (thirty grains to the ounce); a small piece of linen saturated with the same lotion is then laid over the glans penis, and the prepuce drawn over it. During the first days the gray eschar produced by this cauterization is very quickly thrown off, wherefore the application of the nitras argenti should be repeated several times daily. Afterward, when the œdema of the prepuce has subsided and the discharge is greatly diminished, the eschar adheres for one day or longer, and the remedy must not be reapplied till the eschar has been thrown off.

2. *Syphilis of the Cochlea.* Roosa. (*N. Y. Med. Record*, 1876, No. 47.)

In his "Treatise on Diseases of the Ear," 1873, Dr. R. stated that he had yet to see a case of recovery from syphilitic disease of the labyrinth. Since that time he has seen several cases in which very great improvement has resulted from an antisyphilitic treatment, carried out faithfully and thoroughly. As to the diagnosis, the doctor's own remarks may be copied here:

1. Disease of the cochlea, as of the other parts of the labyrinth, usually, although not always, manifests itself suddenly. The patient can definitely fix upon a time when he became deaf, and when he began to have *tinnitus aurium.* This is true even when one side only is affected. The one-sided deafness would not be so quickly recognized were it not usually accompanied by tinnitus, vertigo, and often by unsteadiness of gait. Sudden loss of hearing and the sudden occurrence of tinnitus, vertigo, and staggering, are not, however, entirely peculiar to labyrinth disease, since it is well known that we sometimes, although rarely, have the same symptoms in

cases of inspissated cerumen and catarrh of the middle ear. They are therefore only of pathognomonic value in connection with the objective examination and tests.

2. The tuning-fork is usually heard better or only in the sound or better ear. This would be a much more valuable test were the average powers of exact and objective examination better than we find them among our patients. The value of the tuning-fork is impaired by the willingness of even intelligent patients to believe that they hear all kinds of sounds, no matter how produced, better with the better ear. Then again, if both ears be affected, to nearly the same degree, the test has an extremely limited value.

3. The examination of the membrana tympani and the employment of the methods for inflating the middle ear, will usually give us reasonable conclusions as to the situation of a given disease of the ear, so that at the least we may exclude collections of fluid in the tympanic cavity in making a differential diagnosis between disease of the middle ear and of the labyrinth.

4. The piano, or any very similar musical instrument, will aid us in determining whether or not disease of the cochlea exists. The examination of cases that were unquestionably affections of the labyrinth shows that the power of appreciating low tones is the last to suffer, and the first to recover in most cases of disease of this part of the ear, so that these will be heard when the high ones are not heard at all, or if they are appreciated, they appear "*false*" or doubled. From our present knowledge of the physiology of hearing, when these symptoms are present, we must conclude that the cochlea is the seat of disease, even if it be secondarily affected.

5. The diagnosis of *syphilis* of the labyrinth depends in a great measure upon the same kind of evidence as that from which we conclude that a case of optic neuritis or choroiditis is syphilitic; that is to say, the history and the presence of other symptoms as eruption, mucous patches, etc. It should not be forgotten, however, that the occurrence of labyrinth disease, in a person who has probably had the initial lesion of syphilis, even if no other symptoms are present, is a very suspicious circumstance, which should lead to a careful weighing of the indications for and against a mercurial treatment.

ANNOUNCEMENTS FOR THE MONTH.

MONDAYS. SOCIETIES.
Mondays, Feb. 5 *and* 19.—Chicago Medical Society. Regular meetings.
Mondays, Feb. 12 *and* 26.—Chicago Soc. of Phys. and Surgeons. Regular meetings.
CLINICS. *Every Monday.*
At Eye and Ear Infirmary, 2 P. M.—Prof. Holmes.
At Central Dispensary (Wood and Harrison sts.)—2 P.M. *Gynecological*, Dr. Adolphus; 3 P.M. *Diseases of Children*, Dr. R. S. Hall.
At Mercy Hospital—2 P. M., *Surgical*, Prof. Andrews.
At Rush College—2½ P. M., *Medical*, Dr. Bridge.
At Chicago College, 2 P. M *Gynecological*—Prof. Merriman.
LECTURES. *Every Monday.*
At Rush Medical College (Harrison and Wood sts.)—9½ to 12½ o'clock, Profs. Freer, Lyman and Powell; 4 to 6, Profs. Gunn and Haines. At Chicago College—8¼ to 12½, Profs. Jewell, Hyde, Hatfield and Bond; 3 to 6, Profs. Nelson and Davis, Quine and Andrews, and Roler. At Woman's College—8½ to 11½, Profs. Hotz, Marguerat and Earle; 3 to 5, Profs. Paoli and Stevenson.

TUESDAYS. SOCIETIES.
Tuesday, Feb. 13.—Academy of Science. Regular meeting at 8 P.,M. (263 Wabash av.)
CLINICS. *Every Tuesday.*
At Eye and Ear Infirmary—2 P. M., Prof. Jones.
At County Hospital—2 P. M., *Medical*, Prof. Bevan. 3 P. M., *Surgical*, Prof. Bogue.
At Mercy Hospital—2 P. M., *Medical*, Prof. Hollister.
At Chicago College—2 P. M., *Gynecological*, Prof. Roler.
At Central Dispensary—2, *Surgical*, Dr. Graham.
LECTURES. *Every Tuesday.*
At Rush College—9½ to 12½, Profs. Miller, Allen and Parkes; 4 to 6, Profs. Gunn and Haines. At Chicago College—8½ to 12½, Profs. Jewell, Quine, Merriman and Bond; 3 to 6, Profs. Johnson and Nelson, Andrews and Hatfield, and Byford. At Woman's College—9 to 12, Profs. Bartlett, Curtis and Fitch; 4 to 6, Profs. Hayes and Macdonald.

WEDNESDAYS. CLINICS. *Every Wednesday.*
At Eye and Ear Infirmary—2 P.M., Prof. Holmes. [Montgomery.
At County Hospital—2 P. M., *Gynecological*, Prof. Fitch; 2 P. M., *Ophthalmological*, Dr.
At Chicago College—2 P. M., *Gynecological*, Prof. Nelson.
At Mercy Hospital—2 P. M., *Ophthalmological*, Prof. Jones.
At Central Dispensary—3 P. M., *Dermatological*, Dr. Maynard.
LECTURES. *Every Wednesday.*
At Rush College—9½ to 12½, Profs. Freer, Allen and Parkes; 4 to 6, Profs. Etheridge and Haines. At Chicago College—8¼ to 12½, Profs. Hyde, Isham, Hatfield and Bond; 3 to 6, Profs. Davis and Curtis, Quine and Jones, and Roler. At Woman's College—8:30 to 10:30, Profs. Hotz and Marguerat; 11, Prof. Blake; 3 to 6, Profs. Paoli, Graham and Stevenson.

THURSDAYS. CLINICS. *Every Thursday.*
At Eye and Ear Infirmary—2 P. M., Prof. Hotz.
At Mercy Hospital—2 P. M., *Medical*, Prof. Davis. [*tem*, Prof. Lyman.
At Rush College—2 P. M., *Medical*, Prof. Ross; 3 P. M., *Diseases of the Nervous Sys-*
At Chicago College—2 P. M., *Gynecological*, Prof. Merriman.
At Central Dispensary—2 P.M., *Surgical*, Dr. Graham.
LECTURES. *Every Thursday.*
At Rush College—9½ to 12½, Profs. Miller, Allen and Parkes; 4 to 6, Profs. Gunn and Etheridge. At Chicago College—8½ to 12½, Profs. Hollister, Isham, Merriman and Bond; 3 to 6, Profs. Johnson and Nelson, Andrews and Hatfield, and Byford. At Woman's College—9 to 12, Profs. Bartlett, Curtis and Fitch; 4 to 6, Profs. Thompson and Macdonald.

FRIDAYS. SOCIETIES.
Friday, Feb. 9.—State Microscopical Society of Illinois. Regular meeting, 8 P. M.
CLINICS. *Every Friday.*
At County Hospital—2 P. M., *Medical*, Prof. Bevan; 3 P. M., *Surgical*, Prof. Bogue.
At Mercy Hospital—2 P. M., *Medical*, Prof. Davis.
At Chicago College—2 P. M., *Gynecological*, Prof. Roler. [*dren*, Dr. R. S. Hall.
At Central Dispensary—2 P. M., *Gynecological*, Dr. Adolphus; 3 P.M., *Diseases of Chil-*
LECTURES. *Every Friday.*
At Rush College—9½ to 12½, Profs. Freer, Allen and Parkes; 4 to 6, Profs. Gunn and Holmes. At Chicago College—8½ to 12½, Profs. Hollister, Isham, Hatfield and Bond; 3 to 6. Profs. Davis and Curtis, Jones and Quine, and Roler. At Woman's College—9 to 12, Profs. Dyas, Marguerat and Earle; 3 to 5, Prof. Hayes; 5, Prof. Stevenson.

SATURDAYS. CLINICS. *Every Saturday.*
At Chicago College—2 P. M., *Surgical*, Prof. Andrews or Isham; *Gynecological*, Prof. Nelson; 3 P. M., *Medical*, Prof. Johnson.
At Rush College—2 P. M., *Surgical*, Prof. Gunn.
LECTURES. *Every Saturday.*
At Rush College—8½ to 12½, Profs. Lyman, Miller, Etheridge and Parks. At Chicago College, 8½ to 11¼, Profs. Hollister, Quine and Hyde; 3 to 6, Profs. Nelson and Johnson, Andrews and Quine and Byford. At Woman's College—9 to 12, Profs. Bartlett, Earle and Fitch; 3 to 6, Profs. Paoli, Thompson and Macdonald.

At all the above named Clinics visiting regular practitioners are, we believe, admitted.
At the South Side Dispensary (Chicago College) there are six daily special Clinics, for sections of the classes of the Chicago College.

THE

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AND

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Original Communications.

ON THE PICTORIAL ART IN ILLUSTRATING MICROSCOPIC OBSERVATIONS, WITH ORIGINAL DRAWINGS AND DESCRIPTIONS.

BY R. U. PIPER, M.D., CHICAGO.

A knowledge of the arrangement of material forms in their varied relations can only be conveyed from the observer to others through the actual exhibition of objects, or by means of accurate drawings. Language, if it possessed power to this end, is subject to such wide differences of interpretation that even to experienced observers it often fails to impart correct knowledge. As the material exhibition to any extent of the results of our studies is impossible, we must resort to the pictorial art if we desire that our discoveries should reach the world of science. Art, used to convey ideas, becomes the most potent means of instruction, not only telling what the pen cannot tell, but so condensing knowledge as to convey in a single figure what it would take whole pages to describe, even where such description is possible to language.

Dr. Beale remarks that "an honest inquirer cannot be of greater use in his time than by making good drawings of what

he has seen, and that we may feel sure that those who follow us will respect our drawings, if honest copies of nature."

Any advance in our knowledge of a large number of diseases must rest mainly upon histological research; and here, of course, is required the use of the microscope.

Dr. Richardson says, "that at least one-half the cases of disease which the physician is called upon to treat would have some light thrown upon their nature by a careful examination of the renal secretion, sputum, blood, etc., with the microscope." It seems obvious, then, that an earnest and conscientious practitioner of medicine can scarcely discharge his whole duty to himself and his patients without frequent resort to such investigations.

Take for illustration kidney diseases, which are so common and so frequently grave. They may in many cases be treated with entire success if taken in their early stages. Owing to the labors of Bright, Johnson, Beale and others, the proper treatment of many of these diseases is now well understood. Most, if not all, of the advance in the knowledge of the treatment of these much dreaded disorders, has been made through the agency of the microscope. Through the liberality of the publishers of the JOURNAL AND EXAMINER I am able to show, by means of plates, what can now be done in this way to put on record discoveries made with the microscope, and by other methods also. I speak advisedly when I say *can now be done*, for heretofore, in too many cases where attempts have been made in this way to show minute structure, such attempts have resulted in failure.

In the present case the wood engraver has proved himself able to give "*wash drawings*" with almost absolute fidelity; as nearly so, I think, as may be done by the difficult and expensive process of aqua-tint etching.

So important is the need of giving texture in histological drawings that Dr. Beale devotes pages in urging its necessity, and in endeavoring to give directions for its accomplishment.

Such *fac simile* engravings, when the original drawing is correct, cannot fail to aid the student in his researches with the microscope.

I have chosen for the illustration of my subject two plates drawn by myself directly from the microscope; one of them illustrating a case of chronic Bright's disease, under the care of Dr. I. N. Danforth; the other showing foreign matter found in urine. It may be well, perhaps, in order to show the reliability of the drawings, to give in brief the method of their production. The usual way has been to outline the object by means of the camera-lucida, and afterwards to draw the shading and texture from the memory, a fancy of the artist. Dr. Beale says we cannot expect the artist to spend time drawing things which he neither knows nor desires, perhaps, to know anything about, and yet he tells us it is quite impossible to obtain a good representation of a microscopic object without long and careful study, and that it is necessary to give texture as well as outline in many cases, in order to the recognition of the object even. In such statements I think we may find the reason why so many errors in the texture and otherwise may be observed in the drawings in his magnificent volumes. There is another reason for a want of truth in texture and detail which may be observed in a large proportion of the published plates of microscopic observations. They have been drawn from low powers; hence, of course, minute structures could not be given. My course has been, in all cases where practicable, to use high powers when making the drawings, and to have them reduced on the engraver's block by means of the photographic process; that is, they are photographed on the wood from the negative taken from the drawing, as in copying on paper or any other substance. This enables me to preserve in its integrity every feature of the original picture.

I do not make *pencilled* outlines of my drawings, except in a few cases where it is necessary in order to obtain absolutely accurate measurements in drawing blood corpuscles, with reference to legal cases; but the drawings are made and finished under the camera with the brush. This allows the giving of texture, which is here so beautifully and for the first time, to my knowledge, faithfully copied by any wood engraver. The most exact method of making copies of drawings is by the

photographic process, and it is best to resort to this method when but few copies are needed, as in reporting the results of a microscopic examination for individual study. But the use of the photographic process to produce images direct from the microscope for the purpose of histological investigation I think must in most cases prove an entire failure.

In studying morbid changes in so small an object as a blood corpuscle even, I am obliged to keep my finger nearly all the time on the fine adjustment screw of the microscope, and I do not remember a single drawing made with any degree of finish in which I have not had to change the focus a number of times during the progress of the work; nor, indeed, have I seen a single photograph taken in this manner in which the *whole* truth was depicted; *i. e.*, what could be easily observed by changing the focus of the instrument during the progress of the study.

Take the plate illustrating renal disease, as showing certain other difficulties in the way of rendering micro-photography of value.

As many as twenty dippings from the same specimen of urine were used in making up the plate; and if it were possible to bring all the objects seen in it together in one field, the difficulty would remain of photographing the different objects, many of them occupying different focal planes. There are other obstacles in the way of this process, such as the color of objects, etc., and which need not be detailed.

Regarding the use of high powers, Dr. Beale says, in the last edition of his book, "that they are absolutely necessary to the study of the minute structure of organized matter." I have myself long been convinced of this fact.

In studying blood, all my observations have been made with a power giving 1,275 diameters; and in observations on renal diseases, cancers, etc., it is necessary, in most cases, at some stages of the investigation, to resort to the use of such high powers.

Often, with the exclusive use of low powers, objects would be wrongly named or entirely overlooked, which would at once attract attention when highly magnified.

In both of the accompanying plates may be seen objects which could not have been recognized, or scarcely seen even, by a power of 200 diameters. Let any one try to examine blood discs under this power, and they will at once perceive how inadequate it is for the purpose. Recently a slide of dried

PLATE 1.

In Plate 1, *a* indicates air bubbles, two of them resting upon an epithelial cell; *b*, oil globules; *c c*, epithelial cells; *d*, vibriones; *e*, torula cerevisiæ; *g*, granular casts from the tubuli uriniferi; *h*, a mass of deep orange colored crystals, perhaps chloride of ammonium. Fragments of casts, etc., are seen scattered over various parts of the plate.

human blood was submitted, with the remark that it had been examined under such a power, and found to contain a large proportion of white blood discs. Upon examination with a high power, barely the normal number could be discovered. To-day, we have under examination a specimen of urine which

contains bodies the most practiced observer would try in vain to distinguish under a power of 350 diameters; with a power of 1,200 they are seen to belong to certain species of diatomes. These bodies are frequently found in urine. They are doubtless introduced through the medium of the water used in rinsing the vials which contain the specimens. The bodies referred to might easily be mistaken for a cast undergoing disintegration.

The second plate contains objects often met with in the urine, which are introduced by accident or design. All observers agree as to the great importance of being able to recognize such extraneous substances.

They should be studied by themselves under different powers, being put into urine for the purpose, and then submitted to examination in the usual manner upon the glass slide.

Those shown in the plate have most of them been found in samples of urine under examination. All of them have been drawn while in urine, and thus they are made to appear as they would under the ordinary conditions in which they come under the notice of the medical practitioner. They were magnified much larger than they appear in the plate, and are reduced, as before described, from the original drawings.

Anyone who will take the trouble to compare these figures with those found in the books will perceive quite a difference in the form and texture of most of them. Portions of a feather are represented by *a a;* *b* indicates a group of five epithelial cells; *c*, three pieces of cotton fibre, a piece of hemp being seen at the right of the group; *d*, two pieces of pine wood; *e e*, human hair, the upper piece showing disease; *f*, portion of the root and shaft of dog's hair; *g g g*, groups of potato starch. This starch is seen under these three forms: with the waved surface, with the nucleus, and as in the central group; *h* marks four pieces of cat's hair, all cut from a single specimen. The smallest piece of this hair is given as the typical form in Beale's plate; corn starch is shown at *i;* air bubbles at *k*, with other forms beneath and attached at the side; *m* is a group of wheat starch, one of the forms presenting a very curious appearance; *n*, portion of a rice grain, with a mass of cooked wheat

flour lying to the left of it. This piece of rice grain might well be mistaken for a cast. It is best in working to have a watery solution of iodine to test such forms when there is any doubt in the case. A group of oil globules is seen at *p*, some of them resembling spermatozoa. These globules are described in the books as being yellow. This depends upon the kind of oil composing them. In this case, and in most

PLATE 2.

cases I meet with, they present a sort of pearly hue. Four pieces of linen fibre are shown at *r*; *s* is a piece of wool fibre; *t*, silk fibres. Several plates might be made, showing foreign bodies which are frequently found in urine.

We have found clay, brick dust, ocherous earth, etc., etc., in samples of urine, often introduced by accident, sometimes, doubtless, for purposes of deception. Recently I met with

diatoms from the Pacific coast. These came from sea-weed which had been sent in a letter. Pieces of tea leaves, tobacco, and such substances are quite common. Epithelial cells and other substances from the mouth, introduced through the medium of the sputum may cause the observer some trouble. The want of a careful study of such foreign matters under the conditions in which they are found, has "caused the observer sometimes to make the most ludicrous mistakes."

[I wish to acknowledge my indebtedness to Baker & Co. for the unrivalled truthfulness of the engravings in this paper; and also to Mr. Gentilé for his very successful experiment in photographing my drawings by means of his new process.—R. U. P.]

CLASSIFICATION AND CAUSATION OF DISEASES.

By C. B. JOHNSON, M.D., Tolona, Illinois.

[Abstract of a paper read before the Champaign Co. Med. Society, Jan. 9, 1877.]

Various divisions and systems of classification of diseases have from time to time been presented by eminent medical men. To mention only some: One division is made according to duration, and by this method diseases are separated into acute and chronic. A second is by location; and here ailments are referred to as affecting this or that particular anatomical division of the body. A third system is based upon symptomatology. A fourth upon morbid anatomy; while a fifth is founded upon causation.

But notwithstanding this diversity in the modes of classification, in modern medicine, at least, the several varieties may be referred to one of three systems, viz., either the one grounded upon symptomatology, or the one upon pathological anatomy, or yet the one upon etiology.

Substantially it may be said that the symptomatological school was introduced, and in a measure perfected, by the English; the pathological by the French, and the etiological by the Germans.

About a hundred years ago Dr. Cullen, of the University of

Edinburg, gave to the world his "Nosologia Methodica," in which a systematic division of diseases was made into classes, genera, species, etc., in the same manner that plants in botany and animals in zoology are arranged.

This system was based upon symptomatology, and at the time of its introduction was by far the most acceptable method that had been proposed; and, with various modifications, was the one very generally adopted till about the close of the first quarter of the present century. According to it, diseases were known by their appearances only, and a given malady was assigned or refused a place in a certain group of diseases in accordance with the fact of its symptoms agreeing with or differing from other members of that particular group.

By those who introduced it, an effort was seemingly made to discover for each disease a peculiar symptom which should be pathognomonic of that particular ailment, and around which all the other symptoms should cluster to form a perfect whole. But notwithstanding the popularity of Cullen's classification, it was in reality exceedingly cumbersome, for it embraced over 1,300 diseases, with a different treatment for each.

In the year 1808, Brouissais, of France, published his "Chronic Phlegmasia"; this, so to speak, opened up the new science of pathological anatomy, and was followed in due time by works on the latter subject from Louis, Andral, Cruveilhier, and a host of others in France.

In the year 1820 Brouissais published another work entitled "Examinations into Medical Doctrines and Systems of Nosology," in which the assertion was made that 60 out of every 100 diseases had their origin in gastro-enteritis; that continued fever, in its beginning, was only an inflammation of the stomach and bowels; small-pox and the exanthemata generally were but cutaneous inflammations, kept up by the gastro-enteritis, and rheumatism and gout were often caused by irritation of the stomach, and could frequently be cured by local applications to the gastric region. Indeed, according to his ruling, local diseases absorbed nearly the whole category of ailments, while constitutional maladies were well nigh, if not completely, stricken from the lists. In fact, one of the advo-

cates* of these views says "Diseases being deviations from the natural actions and structures of particular tissues are always local, never general."

Those who advanced these doctrines, though professing to have reached their conclusions from a careful study of pathological anatomy, called theirs the *physiological* school. In the medical literature of 50 years ago the word *ontologist* is of frequent occurrence. This was an epithet applied to one who was supposed to believe that disease was a distinct entity, which for a time took up its abode in the body. Indeed, all those who did not subscribe to the tenets of the so-called physiological school were rather opprobriously styled *ontologists*, much in the same way that the Mormons of our time call all the rest of the world *Gentiles*.

This brings us to the consideration of the etiological system. Two hundred years ago infusoria and spermatozoa were discovered, and as the microscope thus revealed the fact that there were living organisms in the human body — for spermatozoa were for a long time believed to be living animals — it did not take long for the imaginative minds of the medical men of that era to conceive the fact that swarms of animalculæ entered the body and produced epidemic disease. And it is said that one writer of the seventeenth century gravely proposed that a great noise should be made by firing cannon, blowing trumpets, etc., hoping thus to drive away the vast flocks of these disease-producers that were believed to infest the air.

Of course, such a proposal was calculated to bring discredit upon the whole theory; and the idea of low organisms having any agency in the production of disease was substantially ignored till about the middle of this century. Since about 1850 it would appear that some German investigators have been patiently examining into the causation of disease. Their labor has, however, been more especially directed to the etiology of infectious diseases. And while it must be confessed that as yet the result of their investigations has been comparatively meagre, still the fact remains that their discoveries have

* Prof. Sam. Jackson, of the Univ. of Pen.

been of such a nature as to warrant the enlargement of that group of diseases known as infectious and contagious, and likewise to justify the framing of a new theory of their origin.

Agassiz, from a single fossil fish scale as a basis to work on, thought himself justified in constructing a model of the whole fish. Afterward a perfectly fossilized specimen of the species to which this fish belonged was discovered, and it was found to correspond in the most minute particulars with the model made by Agassiz. There is certainly a much less disproportion between the germ theory of the origin of infectious diseases and the well and authenticated facts upon which it is based, than there was between the complete model of Agassiz and the single fish scale which served him as a foundation to build on. Or, in other words, the relation between the true and the *probably* true would seem to be more intimate in the former case than in the latter. And as the revelations of time proved Agassiz correct, so may we hope, nay, almost predict, that the disclosures of the future will so substantiate this theory as to place it beyond controversy. Of the facts, however, relating to this whole subject, it may be said that as yet we have only the bud, and that the full-blown flower, and after it the completely developed fruit are yet to come.

But let us see as to the character of some of these facts: In the year 1848 Lebert, having had occasion to remove a cervical cyst from a child, noticed, after a little while, that the wound, which at first began to heal kindly, had suddenly become converted into a deeply corroding ulcer. And a closer examination revealed the fact that this bad result came from the presence of numerous bacteriæ.

This is a vegetable organism so minute that it is said to be barely visible under the most powerful microscope. Several varieties of bacteria are known to exist. Passing over the almost unpronounceable technical names, there are mentioned, among others, the rod-like, spherical, corkscrew-shaped bacteria, besides several unclassified varieties. Some of the species are known to be prolific disease producers.

The micrococcus or rod-like bacteria has been pretty clearly proven to be the cause of diphtheria. Ebert says, "without

micrococci, *no diphtheria.*" Oertel states that any increase in their number is certain to be followed by increase of diphtheritic deposit.

In relapsing fever a peculiar organism is found infesting the body, and as it is seen in no other disease, it is fully believed by some to be the sole cause of that fever. In the case of malignant pustule, a certain organism is known to exist which is regarded as the propagator of that disease. The same, with a considerable degree of certainty, is inferred to be the case with pyemiæ and puerperal fever. Perhaps at this day no one can be found who will for a moment question the direct agency of the acarus scabiei, or itch mite, in the production of itch. Yet the very fact of its existence was for a long time a vexed question, and was only verified to a certainty 40 or 50 years ago. Though in reality the acarus was discovered as early as 1703.

Neither will any one deny that the trichina spiralis is the sole cause of the disease trichiniasis. Still the fact of the trichina having any agency in the causation of disease was not known for 25 years after the discovery of that organism.

The attempt has been made to produce itch by inoculation with the fluid from the vesicles in that disease, but the experiment failed in all cases. The transplantation of the acarus to a new soil, however, always generates itch. The attempt to produce trichiniasis by any other means than through the intervention of the trichina would meet with the same results as would attend the efforts of a hen that, with an ambitious itching for maternity, sought to attain it by setting continuously on chalk eggs.

Any disease which only comes from one particular cause is a specific disease. And, in this sense, typhoid fever, epidemic dysentery and cholera are believed to be as truly specific as syphilis, and the malarial fevers, diphtheria and the exanthematous fevers as much so as gonorrhœa. No amount of decaying matter, no degree of filth can generate a specific disease. No more will the most fertile spot in fruitful Illinois yield a crop of Indian corn without first receiving the seed, than will the foulest and most contaminated locality breed specific dis-

eases without having been sown with the germs of infection. Filth and decaying matter are only a favorable soil for holding and, perhaps, further developing these germs.

It is true, matter undergoing the process of decomposition often produces certain forms of disease; but the symptoms are usually confined to the alimentary canal, and the disease is never communicable. The following incident from the U. S. Government Report of the Cholera Epidemic of 1873, will illustrate the two classes of ailments: Mrs. Brewster, sister to the celebrated Dr. Henry Bennett, having gone to Vienna to attend the Exposition of 1873, put up at a large and commodious hotel, which had just been opened to the public. She complained of the drinking water the first day, and would not even so much as wash in it without first putting in cologne. She, her niece, and maid, and several servants were all attacked with diarrhœa. This was thought to be a bilious complaint, caused by heat, and was looked upon as a trivial matter. Meantime, the water grew worse and worse, and Mrs. B. made complaint to the landlord. She then resorted to milk and mineral water, till the first was found to be diluted with, and the second made from, water on the premises. On the fifteenth day the hot water for the tea at breakfast smelt so badly that the proprietor was sent for, who reported that one of the drainage pipes had broken into his well, but that a dozen men were repairing it. Her niece refused to take the tea, but Mrs. B. had already swallowed some of it. She continued well all day, but about 11 P. M. was attacked with diarrhœa and vomiting, and in six hours was cyanozed and collapsed, and in *fifteen* hours was a corpse.

It was then found that a gentleman had died two days before from cholera in the hotel. Four more died the same day with Mrs. Brewster, while many of the servants and guests were sent to the hospital, where they afterwards died. The water was now examined, and found to be contaminated with sewage. The hotel was at last closed by the police. While the water was simply polluted with ordinary fecal matter, a comparatively trivial diarrhœa prevailed. But so soon as the two cases of true cholera occurred, and the evacuations got into the

well, genuine Asiatic cholera at once broke out. This disease had really been in Vienna since the previous April, but the fact was concealed, so as not to compromise the success of the Exposition.

At the siege of Metz it is said that from the bad sanitary conditions then prevailing, many predicted an epidemic of typhus fever. But nothing of the kind occurred, simply because those all-important factors, the seeds of infection, were wanting. Really it seems that whosoever believes in the origin of specific diseases by any other means than through the direct agency of their definite and peculiar causes, is virtually a believer in spontaneous generation, and his faith is not far removed in character from that of those common people who believe that swine, dirt and old shavings will breed fleas.

To my mind, one of the strongest arguments in favor of the germ theory is the striking analogy existing between the growth of plants and the course of certain diseases. Take, for instance, small-pox: Let an unprotected individual be exposed to this disease, and for about twelve days therefrom, which period is called the period of incubation, he will suffer no inconvenience. At the end of this time, however, the disease will make its appearance by the patient having high fever. This continues for a certain time, and is followed by the stage of eruption, which in turn is succeeded by secondary fever, and lastly comes the period of desquamation. Let a grain of corn be put in the ground under suitable conditions, and it first passes through the process of germination, which corresponds very closely to the stage of incubation in small-pox. The next step is vigorous growth for the development of the stalk and leaves; this finds its analogy in the primary fever. Another step is the development of the flower, which, in popular language, is the silk and tassel, and fertilization of the young shoot; this is not unlike the stage of eruption. A fourth step is the growth and development of the ear, which may be compared to the secondary fever. Lastly, we have the drying out and ripening of the ear, which corresponds to the desquamation process in variola.

Here are five stages in either case, and in both instances

each stage is within certain limits of definite duration, and corresponds to the carrying out of a certain process. And as we know vegetable life to be at the bottom of all phenomena in the one case, is it unreasonable to suppose that organized action, independent of the body, is the primary cause of what we see taking place in the other. While we are striving to gain light on this subject from analogy, it may not be out of place to give, in a very few words, Lebert's experience with a disease prevailing among silk worms, which was of so fatal a character as almost to destroy the silk industry. He found it to be caused by a minute fungus that infiltrated all the tissues of the body, from the egg to the complete butterfly. This disease had all the characteristics of an epidemic, and was entailed upon the succeeding generation through the agency of the infected eggs.

In the vegetable kingdom each species flourishes best in a certain soil. Some plants require a high, dry location, some do best in a low, wet marsh, others prefer a light, sandy soil, and yet others demand a rich loam. The same is true with infectious diseases. For instance, in small-pox, the disease fastens, by preference, upon the cutaneous system; in typhoid fever, upon Peyer's glands; in dysentery, upon the colon; and in diphtheria, upon the throat; and so on through the whole list.

Ziemssen, in his Cyclopædia of Practical Medicine, makes three classes of infectious diseases. First, those that are directly contagious, as variola, measles, typhus fever, etc. Secondly, those diseases which are purely miasmatic, in which the poison comes from without, never having had previous connection with the body. The malarial diseases belong to this group. The third class is not so simple in its manner of production. To make this plain, a little illustration is necessary.

It is said that an injection of blood from a cholera patient into a healthy subject will not cause the disease. It is also asserted that fresh cholera discharges are incapable of generating cholera; but that these discharges, or rather the germs which they are believed to contain, have to go through a pro-

cess of further development before they can produce the disease. Contact with decomposing matter is highly conducive to this result.

Here, then, we have a poison which is generated in the body, but which has to be subjected to influences *without* the body before it is capable of reproducing its kind. So that a third group is called the miasmatic-contagious. Cholera, typhoid fever and dysentery are good examples. By the etiological system, typhoid fever, so far from being *like* typhus, does not even belong to the same group; typhoid belongs to the miasmatic-contagious class, while typhus is grouped with the directly contagious maladies. The miasmatic-contagious diseases, in their manner of development, bear a striking resemblance to those plants which have to be first sprouted in hotbeds before they are in a fit condition to be put in their proper soil for further growth.

Liebermeister suggests that the difference between the diseases that are directly contagious and the miasmatic-contagious group is not so great as a superficial examination would lead us to suppose. He surmises that the change through which the germs of cholera, for instance, have to pass outside the body, before they can reproduce that disease, takes place in the body in the case of the contagious diseases during the stage of incubation. Or, in other words, we may regard the body as a kind of soil, in which flourish certain diseases, and in the case of the miasmatic contagious class, the germs are, so to speak, sprouted without the body, and are then received, and at once produce their peculiar results. In the contagious diseases, however, the seeds are, as it were, received directly and sprouted in the same soil in which they are to grow.

Zymotic is a term that has long been applied to infectious diseases; but as zymosis, or the process of fermentation, has been shown to depend upon the presence of vegetable organisms, the zymotic theory of the origin of this class of diseases becomes identical with the germ theory.

LOCAL TREATMENT IN DIPHTHERIA, WITH CASES.

By A. W. HAGENBUCH, M.D.,

Assistant Physician at Cook County Insane Asylum and Poor House.

In giving a sketch of an epidemic of diphtheria which came under my care at the Cook county pauper institution, I will strive to notice the main features of the epidemic as they presented themselves.

The total number of patients treated was thirty-three; this number including only cases with well marked pseudo-membrane, all cases of simple pharyngitis being excluded. Of this number six were males, twenty-seven females. The greater number of females attacked is explained by the fact that all boys over five years of age are removed to a separate apartment, while the girls are allowed to remain with their mothers.

The first case was brought to my notice December 9th, 1876. The last, January 13th, 1877. The rate of increase was more marked at the beginning than towards the close of the epidemic.

The average duration, counting from first appearance to the complete disappearance of the pseudo-membrane, was about ten days. In one case I made daily local applications for seventeen successive days.

The tonsils were the primary seat of the pseudo-membrane in ten cases; the soft palate was involved in thirteen cases; the larynx in two cases, one of which proved fatal. The entire nasal cavity was involved in one case, a thin, ichorous discharge resulting, and upon several occasions a severe hæmorrhage followed the act of coughing or sneezing. The post-pharyngeal wall alone was involved in a single case. In the remaining six cases the hard palate, cheeks, etc., were the seat of the pseudo-membrane.

The only fatal case was that of Willie T., aged twelve months. He was attacked suddenly January 3rd, and, although strong and healthy up to this date, was rapidly prostrated. Local appli-

cations could not be employed thoroughly. The larynx was involved by extension of the inflammation on the third day; the characteristic croupous cough was marked, and the patient died on the fifth day, of asphyxia.

Most of the causes generally supposed to operate in the production of diphtheria have been present to an unusual extent; improper hygienic surroundings, crowded apartments, and the diet, although better than the pauper element of large cities can afford, does not contain in sufficient quantities all the proximate principles necessary for the perfect reproduction of the rapidly changing tissues of the growing child; milk, especially, is very scarce during the winter months.

That the disease is but slightly contagious may be proven by the fact that of the one hundred and sixty children inmates, freely intermingling in the school-room and different houses, only those in house C were attacked. The boys' room, about two hundred feet distant, with eighty inmates, did not furnish a single case. I believe the diphtheria poison (whatever that may be) to be slightly communicable by contagion. The fact that I was the only sufferer from diphtheria in the Insane Asylum where I reside, proves to my mind that the close contact with patients, while making the local applications, accounts for the attack in my case. The possibility of having accidentally received some of the secretions into my mouth, and consequent inoculation, must not be lost sight of.

The experiments of Peters*, in which, by the application of a diphtheritic secretion, he was able to change the nature of any simple inflammation, so as to form false membranes upon ulcers, erosions, or any denuded surface, prove, beyond dispute, the inoculability of the diphtheritic secretions.

Paralysis of the soft palate was present in thirty per cent. of all the cases, and albumen in the urine was found in two out of five specimens examined. The paralysis of the soft palate prevented often the ingestion of liquid food, and lessened the facility with which local applications were made to the post-pharyngeal wall. Several cases, towards the close of the

* See Edinburg Med. Jour., 1860.

epidemic, suffered with severe diarrhœa, but improved with mild astringent preparations and good diet.

I ascribe the low rate of mortality, to some extent, at least, to the early and thorough local treatment employed.

Twenty cases, in which a vigorous local treatment was employed, made a more rapid and perfect recovery than cases in which the local treatment consisted only of weak astringent gargles, too early discontinued. In several cases I was obliged to return to the local applications to relieve suffering and imminent danger to life from accumulated secretions and extensive false membranes obstructing the pharyngeal space.

The local applications mostly employed consisted of equal parts of tincture of the chloride of iron and dilute nitric acid. First rinsing the mouth, and carefully removing the secretions and detached membranes with a dry swab, I applied the above preparation with a soft brush. The parts, upon inspection, now presented a dryer and more healthy appearance, the astringent application causing the contraction of the tissues, and giving to the enlarged tonsils a corrugated appearance. In three cases only was a stronger preparation than the above employed, including my own case, in which the nitric acid C. P. was carefully applied to the false membrane with an ivory probe; and although the membranes reappeared in other locations, a single slight application would completely remove the newly formed membrane, leaving in its place a healthy appearing granulated surface, which healed kindly without any further trouble.

To recapitulate: The marked features of the epidemic were the limitation of the affection to one house, showing its very slightly contagious nature; the rapid invasion and unfavorable progression if not interfered with; the low rate of mortality; the anæmia which follows; and above all, the unmistakable benefit derived in nearly every case in which vigorous local treatment was employed. In all cases, no matter what general treatment was employed, if the local applications were discontinued for a single day, the case was invariably worse; especially the cough and difficulty of breathing were aggravated.

TYMPANITIC RESONANCE IN PLEURITIS.

By E. FLETCHER INGALS, M.D., Chicago.

In pleuritic effusions of considerable extent, the resonance over the anterior-superior portion of the affected side of the chest often has a tympanitic quality. Although most writers on diseases of the chest and physical diagnosis mention this, they omit to give a satisfactory explanation for the phenomenon.

In a review of the fourth volume of Ziemssen's Cyclopædia, in the February number of this Journal, we find an explanation of this sign by Fraentzel which we have not seen before. He holds that decrease in tension of the lung lowers, while decrease in volume raises the pitch of the percussion note; therefore he reasons that the sign in question is due to a relatively greater decrease in the tension than in the volume of the compressed lung. The tympanitic sound being considered of low pitch.

This is an ingenious theory but it is not satisfactory. At a temperature far below that of the human body water vapor is constantly rising, and at a temperature of 98½° F. water evaporates rapidly under a pressure of fifteen pounds to the square inch, even though removed from the favoring influences of a changing atmosphere. To verify this, fill a test tube, and invert in water heated to 98½° F.; very soon vapor will collect above the column of water in the tube. If the heat be maintained we can easily collect a considerable quantity of vapor. If a funnel be attached to the tube, so as to collect the bubbles from a larger surface, the vapor will be obtained more rapidly.

To make the conditions of the water in the test tube conform, as nearly as possible, to those of fluid in the pleural sac, we may attach to the tube an elastic rubber bag, having both filled with water. By maintaining a temperature equal to that of the body, we will obtain the same results as in the first experiment.

In these experiments there will be as much pressure upon

fluid in the tube as upon that contained in the chest in pleuritic effusions; at least until the pleural sac becomes distended, and in most cases when distension is great, there is a corresponding elevation of temperature in the body, which increases the tension of the watery vapor sufficiently to overcome the augmented pressure.

These experiments seem to leave no opportunity for a reasonable doubt that evaporation takes place from pleuritic effusions.

It seems fair to presume that alterations in the pleura, either as the direct result of inflammation, or as a consequence of pressure, which are sufficient to prevent the absorption of fluid, must likewise hinder the absorption of watery vapor; therefore, notwithstanding the influence which volume and tension of the lung, or air in the larger bronchi, may have in the production of tympanitic resonance, we believe the sign under consideration is in great part due to a collection of vapor above the fluid in the pleural cavity.

A STUDY OF THE LITERATURE OF PUERPERAL ECLAMPSIA.

By SMITH BAKER, M.D., Whitesboro', N. Y.

As early as the beginning of this century, a Dr. Hamilton is reported to have noticed that puerperal eclampsia was often preceded by anasarca; but this observation does not seem to have impressed the profession as having much importance, for in 1829, Dr. Harrison is recorded in the *London Lancet*, as believing the disorder due to "injury inflicted upon the uterine nerves." "By the too rapid and forcible dilatation of the cervix uteri, os tincæ, or vagina, some of the nervous fibrils are so suddenly elongated as to become fretted, unduly stretched, or, perhaps, actually torn, if not burst asunder."

About the same time Dr. Blundell, in the same periodical, said, in speaking of treatment, "a main remedy is the abstraction of blood, as largely as the patient may safely bear. There

is a second remedy of very great importance, viz., the thorough evacuation of the alimentary canal. * * You generally, if not always, find symptoms of cerebral efflux of blood; hence, the importance of the complete refrigeration of the head. Lastly, deliver, if you can do it gently, if not, leave to nature." He gave two cases illustrative of his opinions, one of which lived and the other died.

In 1844 the editor of the *London Lancet* quoted several authors as representatives of the opinions of that time concerning the etiology and pathology of this affection. According to Ramsbotham, the most usual proximate cause is probably pressure on the brain, produced by the rupture of a vessel, by serous exudation into the ventricles, or by simple congestion of the cerebral vessels themselves, the affection originating most commonly in some deranged state of the uterus itself, an irritation being propagated from that organ to the brain. According to Dr. Rigby, the exciting cause "is the irritation arising from the presence of the child in the uterus or passages, or from a state of irritation thus produced continuing after labor," while the predisposing causes are "pressure on the abdominal aorta, uterine contraction, constipation, retention of urine, injuries to the head, cerebral disease and mental excitement." According to Burns, the cause is uterine contraction, and sometimes "a neglected state of the bowels." "The sympathetic irritation is almost invariably accompanied by an affection of the vascular system, productive of great determination to the head * * which aggravates the evil, and, indeed, becomes the chief source of danger." "After death, we sometimes find turgescence of the vessels of the brain, but very often no mark of disease elsewhere. According to Lee, "the phenomena are due to a condition produced by sympathy with the nervous system of the uterus." According to Locock, the immediate causes are often very obscure. A loaded state of the vessels of the brain appears to be one. At times the brain seems influenced by distant irritation in the uterus or digestive organs. Attacks are due to a loaded or disordered stomach, or by indigestible food, the straining of labor pains, and even the disturbance of rush of blood to the head, caused by the

earlier uterine contractions, will sometimes bring on the convulsions.

In the same issue of the *Lancet*, W. Tyler Smith attempted to demonstrate that puerperal convulsions are a purely "excito-motor phenomenon." "The convulsions commonly occur," he says, "when the spinal marrow has been acted upon by an excited condition of its incident nerves coming from the uterine organs, such excitement depending on labor, pregnancy, or the puerperal state. While the spinal marrow remains under the influence of these stimuli, convulsions may arise from two series of causes: those acting primarily on the spinal marrow, or *centric causes*, as, 1, loss of blood; 2, pressure from congestion, effusion, etc.; 3, asphyxia from closure of the glottis; 4, emotion; and those affecting the extremities of the incident nerves, or *eccentric causes*, as, 1, irritation of uterine incident nerves; 2, irritation of incident spinal nerves of the rectum; 3, irritation of incident gastric fibres of the pneumo-gastric nerve; 4, irritation of the vesical branches and of those of the surface of the body."

A year later the same writer said, in the same periodical, of the treatment of this affection, that "blood-letting, in fullness of the vascular system, is the most powerful sedative of spinal action that we possess, and is the grand remedy in the simpler forms of convulsion, where the disease depends on stimulation of the spinal marrow by excess of blood. But when the circulation is reduced considerably below par, loss of blood becomes an actual stimulant to the spinal marrow. In convulsions occurring in delicate anæmic women, bleeding is generally inadmissible, being, in fact, itself an exciting cause of the disease. In intermediate conditions, venesection should be followed by stimulation." In addition, "cold water to the head and face, in order to open the glottis, and to relieve cerebral congestion, and avoidance of all emotional excitement," seemed to him of importance.

In 1849 Dr. Murphy gave, in the *Medical Gazette*, as the predisposing causes of this affection, "hyperæmia, anæmia, impure blood;" while he considered the proximate causes to

be "morbid irritation of the uterus; morbid irritation of other organs."

In 1855 a case was reported in the *Lancet* by Dr. Winn, treated by abstracting "twelve ounces of blood and giving a few small doses of calomel." Recovery followed. A year after, however, Dr. Radford reported a case, the treatment of which was "bleeding to twenty ounces, purging with croton oil, and bleeding again profusely," because the convulsions still continued; that terminated fatally.

In 1856 W. Tyler Smith, in the *Lancet*, reiterated his account of causes given ten years previously, and said of bleeding, that in plethoric states "it is in this disease *curative* in its action on the spinal marrow; *preventative* in its action on the brain." He also directed that we "should look to the albuminuria," and to allay the uterine irritation we "may let off the liquor amnii."

To Prof. J. Y. Simpson is credit generally given for having first called attention to the fact that albumen is sometimes found in the urine of pregnant women; while to Dr. John C. W. Lever a like honor is given for having reported, in 1843, that in nine cases out of ten albuminous urine accompanied puerperal eclampsia. But up to about twenty years since this fact does not seem to have commanded the attention of practical physicians to any extent. With the impetus of such a name as Tyler Smith, it is not strange that the profession afterward manifested a deep interest in the subject, and heeded his injunction to "look to the albuminuria."

Contemporaneously with this new phase in the etiology of this disease was the introduction of chloroform as a therapeutic agent. In the *Lancet* of October 5, 1859 a case is reported by Dr. Bullen, treated by chloroform inhalation with recovery. But his action may have been based upon the comprehensive propositions of Dr. Carl Braun, published in the same year at Edinburg. Some of them were as follows:

"Convulsions in females during the generative period depend either upon hysteria, epilepsy, disease of the brain, mineral or vegetable poisoning, or upon uræmic intoxication. The most frequent cause of eclampsia is uræmia and Bright's disease.

"In cases of Bright's disease during pregnancy, if carbonate of ammonia be found in the blood, a speedy outbreak of convulsions may be expected. Eclampsia, *i. e.*, uræmic convulsions, has no immediate connection with the pains and process of labor. Albumen will be found in all cases of eclampsia not dependent upon hysteria, epilepsy, primary cerebral disease, or poisoning. The injurious effects of bleeding in eclampsia have been observed by Kiwisch, Litzman, Sedgwick, Blot and King, and the uncertainty of the practice has been confirmed by our own experience. Chloroform inhalations are the best means of mitigating and bringing to an end uræmic convulsions either during pregnancy labor, or the puerperal period. The diuretics most to be relied upon for the relief of uræmia and Bright's disease are the benzoic, citric and tartaric acids. Artificial delivery is not, as a rule, to be resorted to in Bright's disease, but it may be in actual uræmic convulsions. The most appropriate method of producing labor is by forcibly dilating the vagina [os uteri?] by means of a caoutchouc apparatus.

In the *Amer. Jour. Med. Sci.*, July, 1860, Dr. Chas. A. Lee reported a case treated successfully by chloroform, and also said that congestion of the kidneys from mechanical pressure must be the cause of the albuminous urine, inasmuch as this condition is met with most frequently in primiparæ, and disappears in two or three days at farthest after parturition. He believed that chloroform, in the vast majority of cases, "is the sheet anchor of our reliance."

In 1863 Rosenstein expressed his belief that puerperal convulsions are attendant upon an "alteration of the circulation within the brain." Pressure and diluted serum occasion "œdema and secondary anæmia of the brain, and thus may call forth convulsions."

In the *Medical Times and Gazette*, of July 4th, of the same year, strong testimony to the efficiency of chloroform in controlling puerperal convulsions, is borne by Dr. Murphy and Dr. Braxton Hicks; but three years later, an abstract of a report on this affection, by Dr. W. C. Hall, to the Ohio State Medical Society, published in the *Amer. Jour. Med. Sciences*, sums up by declaring that the nature of puerperal convulsions

is yet undecided, the causes undetermined; that uræmia, as the only cause, is denied, if not disproved; that *post-mortem* examinations are unsatisfactory. The almost universal testimony is found in favor of reasonable depletion; the use of chloroform and opiates is strongly recommended, and almost as strongly denounced. "Speedy delivery is the only thing universally agreed upon."

In Vol. 8, *Trans. London Obstet. Society*, Dr. Braxton Hicks says that uræmic eclampsia causes nephritis; the nephritis and the convulsions are produced by the same cause, *e. g.*, some detrimental agent in the blood, irritating both the cerebro-spinal system and other organs at the same time; or the highly congested state of the nervous system, as is produced by the spasm of the glottis in eclampsia, is able to produce kidney complication.

In 1868 Dr. G. Swayne, in the *British Medical Journal*, regrets the disuse of the lancet, and objects to chloroform as a substitute for it.

In the *Michigan Univ. Med. Jour.*, for 1870, Prof. H. S. Cheever reported a case treated by evacuating the stomach, abstracting fifteen ounces of blood, giving five grains of calomel and jalap, each, supplemented in due time by an injection, to secure catharsis, sponging the surface with warm vinegar, and giving small doses of compound jalap powder, to secure action of the skin and kidneys, and keeping the patient well under the influence of chloroform throughout. At the end of twenty hours the child and placenta were successfully delivered, and after much persuasion the former made to live. The chloroform was now withdrawn, but in two and one-half hours the mother had another convulsion, and repeatedly had them, notwithstanding the chloroform was again resumed. Iodide of of potassium, strong beef tea, etc., were given until the second day after, when they ceased. Sixty hours later, although injections of morphia, brandy and beef tea were given, the patient died. Albumen was found in the urine throughout.

In the *Transactions of the N. Y. State Med. Society* for 1871, Dr. Harvey Jewett has an article. He had this experience: "Prior to 1860 I find ten recorded cases that were

treated by copious and repeated bleeding, blisters, sinapisms, cold, opium, etc. Out of the ten cases thus treated, seven died. Since that period I find six cases that were treated with chloroform and drastic cathartics, not one of the number were bled, and all recovered."

In *Guy's Hosp. Reports* for 1870–'71, Dr. J. J. Philips says that "the present diminished mortality is probably chiefly due to the less free depletion that is now practiced; and the chief reliance should be placed on chloroform, which prevents the recurrence or diminishes the violence of the paroxysms."

In 1870, Dr. R. D. Fox, in the *Lancet*, reported a case of a fifteen and one-half year old girl who, continuing to have convulsions for hours after delivery, was given a half drachm dose of this agent with marked success.

Dr. Robert Barnes, in his Lumleian lectures (1873) takes this position: Pregnancy and labor require an extraordinary supply of nerve force. This implies a corresponding organic development of the spinal cord. The provision of such nerve force implies a greatly augmented irritability of the nervous centres, rendering them more susceptible to emotional and peripheral impressions. The disturbances in nutrition, occasioned by pregnancy, almost always entail some alteration of the blood, which increases the irritability of the nervous centres. When the blood change is marked by albuminuria, a poisonous action of peculiar intensity is exerted upon the nervous centres, tending to produce eclampsia. Rational treatment must accord with the two great factors in the production of such diseases, namely, exalted nervous irritability and lowered or empoisoned conditions of the blood.

His plan of treatment embraces the induction of labor, where practicable, especially by "puncturing the membranes and leaving the rest to nature;" the induction of anæsthesia by chloroform, which proceeding "now rests upon a solid foundation of clinical facts;" and "when the patient can swallow in the intervals of the fits, the giving at first a scruple or half-drachm dose of chloral, and then every three or four hours a like quantity of bromide of potassium or ammonium." He also says: "I am one of those who think there is more of

fashion than of wisdom in the almost absolute disuse of the lancet; but in this particular case I do not regret the disuse into which it is falling." He would cut off all emotional excitants, and says, "there is no fact in medicine of which a stronger conviction has been forced upon me by observation than this: that all peripheral irritation (*i. e.*, blisters, mustard, poultices, cold, etc.,) is injurious in eclampsia. Hence the rule, where the situation dictates manipulation of any kind, to lull the system in the artificial sleep of anæsthesia."

During the same year (1873), Dr. John Barclay, in the *British Medical Journal*, mentions giving, in a severe case, as a sort of "forlorn hope," half a drachm of chloral in a small starch enema, with results entirely satisfactory, as well as surprising. Dr. Allan D. Barclay, in the same Journal, reports a successively "slight, bad and worse" case checked by the same means.

Dr. T. More Madden, of Dublin, in 1874, (*Medical Press and Circular*,) declares that "some advance has recently been made in the prophylaxis and management of this disease, but its causes still remain *subjudice*, sharing among a variety of circumstances." The state of the uterus during gestation, the remarkable condition of nervous susceptibility, the interference with the venal function, the cerebro-spinal congestion, the irritation of the same by the circulation of vitiated blood, producing a direct toxic effect, all combine to produce such a hyperæsthetic or irritable condition of the excito-motor nerve substance as to "need only the addition of the uterine irritation * * to cause the pent-up nerve force to burst into uncontrollable action," producing eclampsia. He distinguishes puerperal eclampsia from similar affections, by observing that the former is "preceded by œdema of the upper extremities, face and eyelids, pain in the lumbar region, and albuminuria; that for some days before the attack the patient generally complains of *malaise* followed by headache, giddiness, confusion of thought, or peculiar irritability of temper." Treatment with him is especially prophylactic, and has reference to relieving the kidneys by cupping and fomentations over the loins, the free use of diluents, and the continuous administration of

mild diuretics, notably, "colchicum in small and guarded doses; in assisting nature to purify the blood by saline cathartics and diaphoretics, and soothing nervous irritability by sedatives, especially bromide of potassium and belladonna."

In the *Amer. Jour. of Obstetrics*, for August of the present year (1876,) Dr. Henry F. Campbell, of Georgia, puts it "that the proximate cause of eclampsia having been recognized as centric and peripheral irritation, or exaggeration of reflex excitability, then the sole, the grand and consummate indication is to quiet and subdue irritation. * * * The well-known and universally acknowledged superiority and efficiency of opium and its preparations for controlling irritation renders it the first, the most ready, and the most promptly effectual of all the means at the command of the practitioner. * * * Next to opium, in its general applicability, and superior to opium in many specific cases, utterly indispensable to some, we should rank blood-letting as *the* sedative;" and he claims that if not resorted to so frequently as formerly, venesection should at least be retained as "one of the most reliable of all our reliances, while chloroform, chloral, bromides and quinia may all be considered with this as possessing one common therapeutic endowment — power to subdue nervous irritation."

In addition to these selections from various periodicals, we glean from the text-books of the present day the following opinions: Says Cazeaux (1870), "It is evident that all these (the causes) have a tendency to produce irritation of the nervous centres. This irritation is direct, when due to the immediate contact of vitiated blood, and indirect, or by reflex action when it follows the excitement of a distant organ, as the bladder, uterus, etc. I am happy to find, in the work by Scanzoni, a confirmation of these views. * * * Since albumen is present in the vast majority of eclamptic women, it, or the disease of which is a symptom, may be rightfully regarded as the predisposing cause of eclamptic convulsions. I say the only predisposing cause. Usually, general venesection will first be preferred. The vein should be opened largely, and the blood should flow in a full stream. Should it dribble away, or the

jet be very small, the bleeding is almost useless, and another vein had better be opened at once. Simultaneously it is advisable to produce a derivature to the intestinal canal and skin." * * "When eclampsia comes on during either pregnancy or labor, and the closure or undilatibility of the cervix makes it impossible to effect delivery, or when the attacks, having resisted bleeding, and revulsions are very frequent, and threaten the life of both mother and child, the use of chloroform may be of some service."

Says Elliot (*Obst. Clinic*, New York, 1873,) "the greatest advantage gained from our knowledge (recent) has been in prophylaxis. * * Instead of suspecting the brain, we now study the kidneys. That we have reached the *ultima thule* of our investigations is not even imagined. * * The pathology of the blood remains comparatively unexplored, and the relation of that fluid, and of the nervous system itself, to the proximate cause of the convulsions, as well as the influence of other toxæmic conditions, offer wide fields for exploration. Pregnancy presents the great clinical peculiarities of being a special excitor, in very many cases, of albuminuria; of materially developing morbid conditions in many chronic cases in which they might possibly have remained latent for a much longer period. Albuminuria, in pregnancy * * entails a special liability to some dangers, such as convulsions and mania."

"Prophylaxis of puerperal eclampsia — Eliminate through the bowels, the skin and perhaps the kidneys. Consider the advisability of inducing labor and of abstracting blood. Diminish the supply of meat and undigestible food. Remove exciting and depressing influences. Do not debilitate the patient. Ward off threatening attacks with chloroform or sedatives. I see every reason for believing that chloroform is the most prompt and certain agent that we possess for moderating the violence and preventing the recurrence of the convulsions."

Schrœder (1873,) quotes Halbertstina as believing that the convulsions are caused by the retention of the constituents of the urine, and that this retention is due "to pressure of the uterus on the ureters." While according to the same author, Traube believes "that the loss of albumen, and the consequent

hydræmia cause by the simultaneous hypertrophy of the left ventricle, a greater pressure in the arterial system, and this leads to œdema of the brain, which shows itself as coma when the cerebrum is œdematous, or as convulsions when the middle portions are affected. According to this theory, an increased pressure suddenly produced in the aortic system, in cases when the blood is in a high degree of hydræmia, leads to hyperæmia of the brain; but on account of the watery condition of the blood, œdema of the brain is the necessary consequence of this hyperæmia. The passage of water into the tissues, again, exerts a mechanical pressure upon the blood-vessels, and leads consecutively to anæmia of the brain. The effect of this acute cerebral anæmia is observed as an epileptic seizure."

He considers the treatment to be effectual only "when narcosis is absolute; that is, when the patient is quite unconscious, so that the voluntary muscles no longer contract. As long as the eyelid quivers, or the body is in any way thrown about, another dose is requisite." This narcosis he would accomplish by means of chloroform, or by the hypodermic injection of morphia. He quotes Reickhard as authority for the sub-cutaneous injection of chloral, and Martin as testifying to the efficiency of the same agent given as an enema.

Dr. Fordyce Barker (Puerperal Diseases, 1874,) refers to the work of Frankenhaueser, of Jena, "On the Nerves of the Uterus," in which he says "is demonstrated a direct communication between the nerves of the uterus and the renal ganglia. He (Frankenhaueser) believes that the sudden occurrence of eclamptic attacks following all external sources of irritation (as pressure of fœtal head upon cervix, digital examinations, etc.,) and from emotional causes, goes to prove that the nervous system, and not the vascular system, is the starting point of puerperal convulsions."

In the same connection, Dr. Barker himself considers that "clinical observations have established that the following conditions are predisposing causes of eclampsia in puerperal women, viz.: albuminuria, hyperæmia, anæmia, uræmia, primiparity, and, perhaps, atmospheric influence, and that anything which produces direct or indirect irritation of any part of the nervous

system may bring on convulsions, as in the pregnant, indigestion, constipation, retention of urine, excessive distention of the uterus, reflex pains, or moral shocks. During labor, besides all these causes, anything which makes pain severe."

Treatment with Dr. Barker is prophylactic, as "removing renal and local congestions, curing anæmia, inducing labor, if necessary, using chloroform, permitting the patient to lose blood, watching the renal secretion, relieving the bladder, and tranquilizing, by means of opiates, or otherwise, as when the attack occurs before labor. If the pulse be strong and hard, with great fullness of the vascular system, and the appearance of the face indicates cerebral congestion, bleed at once. The bleeding is sedative to nervous irritation, it removes the tension from the brain, and protects it from injury." He then gives a brisk purgative, administers chloroform by inhalation, and also a hypodermic injection of morphia. He has been disappointed with chloral.

After this somewhat extended reference to the conclusions of others respecting the etiology and pathology of puerperal eclampsia, it may appear almost presumption to add any suggestion or experience of my own.

It may not seem a very great ascent from the "actually torn or fretted" uterine nerve of nearly half a century since to the "exaggerated reflex excitability," or direct anatomical connection between the "uterine nerves and renal ganglia of to-day;" nor from the "more bleeding the better" doctrine of the past to the "special venesection, chloroform, or eliminato-sedative treatment of the present." But a great advance is, indeed, evident, when we consider that during this time the profession has recovered from the paralysis of routinism to the more healthy condition which permits circumstances to intimate, and reason to dictate, the course to be elected and pursued in such given case; while, also, at the same time, the amount of suffering and the rate of mortality have been largely reduced.

What is needed in addition, just now, is a sharply-defined summary of what needs clearing up, by the study of morbid anatomy and pathology, and of our present knowledge of the means of prophylaxis and treatment.

With reference to morbid anatomy in this disease, it seems desirable to investigate 1, whether there is an actual increase in the structural elements of the spinal cord; 2, whether there is a direct communication between the nerves of the uterus and the renal ganglion; 3, whether there is an unusual condition of the uterine walls or intra-uterine elements; 4, whether there are actual lesions of the kidneys and bladder.

The study of pathology should include the following points: 1, the actual condition and relative proportion of the blood constituents; 2, the actual condition of the various secretions; 3, the question of exaggerated reflex excitability, having special reference to the relation of the blood to the brain and spinal cord; 4, the special influence of the puerperal state; 5, the special influence of the atmosphere and other external conditions.

Although this comprises a wide field for exploration, the combined efforts of the profession may soon accomplish the desired result, if each case occurring in private or hospital practice be accurately observed and faithfully reported. Until then we may act safely, perhaps, in adopting the following plan of treatment:

At a preliminary examination, to be held from two to four weeks before the expected labor, determine so far as possible, whether there be, *a*, hyperæmia; if so, prescribe a low diet, saline cathartics, and potassic bromide thrice daily; *b*, if there be anæmia, order a good diet, tr. ferri chlor. after meals, and an aperient pill at bedtime, if necessary; *c*, if œdema or albuminuria exist, these will need the exhibition of tr. ferri chlor. with meals, and potassic iodide between meals and at bedtime; *d*, headache, malaise, irritability, etc.; for these, remove the cause, if possible, and if necessary give sufficient opiate to effect relief.

During labor, if convulsions occur, seek out the special conditions of the patient and act as indicated. A full, strong, bounding pulse, and a bright colored mucous membrane will require venesection carried to the extent of securing its sedative effect, a half-drachm dose of chloral per mouth or rectum, means for inducing a movement of the bowels, and a free per-

spiration, relief of the bladder, if distended, and the exhibition of chloroform for anticipating and controlling the convulsions. A feebler pulse, pale membranes, and œdema will, as a rule, require or permit an active cathartic only, and chloral and chloroform. If the convulsions recur, (unless it be previous to the seventh month, when repeated hypodermic injections of morphine should be given, and the labor left to nature for a longer time,) proceed quickly, but gently, to dilate the os uteri by means of tents and Barnes' dilators, puncture the membranes, excite uterine contractions by means of warm uterine douche and ergot, and deliver as soon as possible.

After the delivery is accomplished, let the uterine hæmorrhage proceed moderately, inject, hypodermically, one-sixth to one-quarter grain of morphia, and give broths and stimulants as required; exercise extreme care about the after attentions, as bathing, etc., and prohibit and prevent all disturbances by friends, or otherwise.

In fine, by food, tonics and stimulants, by purging, bleeding or sweating, by quietness, or delivering, by opium, bromides, chloral and chloroform, each in its time to suit the *peculiar circumstances of individual cases*, and guided by judgment unobscured by theories, we may be more successful than hitherto at the bedside of our patients with puerperal eclampsia.

Correspondence.

TREATMENT OF SCARLET FEVER.

[The following communications, sent in response to requests made by the editor of the JOURNAL AND EXAMINER, are contributed by physicians engaged in large practice. Communications of this kind give the best exposition of the various methods of reaching the same object by different lines of practice.—ED.]

B. M. Griffith, M.D., Springfield, Illinois, writes: Without

entering into a discussion of the etiology, history or pathological elements of scarlet fever, further than to recognize it as a virulent type of an acute, infectious disease, I will proceed at once to the management and treatment of this malady.

Fortunately there are many grades of this disease. There are many cases of a mild type which will recover without any medication, and many that require little more than the observance of hygienic laws. Again there are many cases that require the vigilance and skill of the most astute practitioner to safely conduct the victim through an attack of this disease. To that intense form of the scarlatina, I wish to offer some suggestions in the treatment which has been most successful with me.

Any practitioner of experience in this malady recognizes the fact that "there is no specific for scarlatina." Any careful observer at the bedside will also recognize the fact that those remedies most potent in treatment are those which destroy the specific poison, control the temperature and prevent the disintegration of tissue. Of such remedies, sulpho-carbolate of soda, carbolic acid, salicylic acid, iodine, bromine and chlorine are the principal ones.

Take, as a typical case, a child ten or twelve years old, of good, vigorous constitution, in which the palate, uvula and tonsils are red and swollen, with enlarged and inflamed cervical, inguinal and axillary glands, eruption well developed, high grade of fever, tongue dry, and pulse rapid. The bowels should be kept open, and, for obvious reasons, saline cathartics are preferable, like effervescing crab orchard salts or seidlitz powders. For the throat I generally give this prescription:

℞ Potass. Chlorat..... ʒ ij.
Tinct. Ferri Mur..... ʒ ss.
Syrup Simpl..... ʒ iij.
Aquæ Destil..... ʒ ij.
M. S. Teaspoonful in water, and gargle once in two hours.

In the beginning cold applications to swollen glands and frequent allowance of ice, to relieve thirst and check inflammation about palate, uvula and tonsils.

℞ Acid. Salicylic. Sol..... ℥ ij.
Potass. Chlorat..... ʒ ij.
Aquæ Destil..... ℥ ij.
M. S. Teaspoonful in water once in two hours.

(N. B.—The salicylic acid solution has two gr. to the ʒ, prepared with boracic acid.)

If the temperature is very high, and the thermometer registers 102° or over, give salicylic acid solution, two teaspoonfuls in water, alternating with potass. mixture until the temperature is reduced.

Salicylic acid is unquestionably antiseptic, antizymotic and antipyretic, and cannot be too highly praised as a remedy in scarlet fever, diphtheria and typhoid fever. Scarlatina must have a remedy that meets it on the very threshold of its invasion, and contends the ground step by step until conquered and utterly routed. Local remedies are only palliative and adjuvants in the treatment, and he who recognizes the constitutional malaise has already taken the initiatory step which leads to victory. Salicylic acid as a remedy meets the indications. Only such remedies as antagonize the disease element ultimately win the battle. Cases treated with this remedy have been unusually exempt from the troublesome and annoying sequelæ of this disease. Albuminuria, dropsy, purulent discharges from mucous membranes, seldom give any trouble.

As a tonic—

℞ Quiniæ Sulph..... ʒ ss.
Tinct. Ferri Mur. ..... ʒ ij.
Potass. Chlorat .... ʒ j.
Syrup Simpl. ..... ℥ ij.
Aquæ Destil..... ℥ ij.
M. S. Teaspoonful in water once in three hours.

Hygienic laws must be strictly enforced, not only for the benefit of the household, but for the assistance in the cure of the patient. Cleanliness, frequent change of clothing for the bed and patient, ventilation, and above all *disinfection.* For the latter vaporized iodine is altogether the best and most pleasant method — less offensive, and more tolerant by the

nasal passages. Half grain of iodine, five grains of iodide of potassium, with an ounce of water, kept in an open vessel at a high temperature, will be sufficient, locally, to relieve the excessive irritation of skin.

℞ Aquæ Cologniensis..... ℥ iiij.
Glycerinæ..... ℥ ij.
M. S. Apply freely with sponge as often as required.

There are cases which from the beginning show profound depression from the poisoned condition of system.

℞ Ammon. Carb..... ʒ iij.
Syrup. Aurant..... ℥ j.
Emuls. Amar. Amygd..... ℥ iij.
M. S. Teaspoonful once in two hours, or oftener if necessary, until good circulation is restored, alternating with sol. salicylic acid, teaspoonful doses.

The salicylic acid lessens the temperature; it does so as an antiseptic and antizymotic, antagonizing the poison which is producing depression.

In those cases of painful ulceration of fauces and tonsils —

℞ Chloral. Hydrat..... ʒ j.
Glycerinæ..... ʒ v.
M. S. Applied with brush, gives great comfort, enabling the patient to swallow medicine and food without so much pain.

Sol. of mur. ammon. may be substituted for the ice or cold water to glandular inflammations, by cloths dipped in the solution and applied.

F. B. Haller, M.D., of Vandalia, Illinois, says: My treatment in the main is expectant. In the early stage I usually give an emetic of ipecac, and frequently follow it with a cathartic of calomel and rhubarb. I then place them on chlorate of potash and ipecac, in small doses, at short intervals, watching the progress of the disease; treating symptoms as they are manifested. If the fever is high, give veratum viride and spts. nitr. dulcis; if the throat is sore, use a gargle of chlorate of potash or Watson's chlorine mixture. I am care-

ful to have the room well ventilated, and keep my patients as much isolated as possible.

When desquamation sets in I put them on a liberal diet, and vigilantly watch the kidneys to keep them in as near a normal condition as may be; keep an eye to the throat and ears, so as to guard against any trouble with them.

This is an outline of my general treatment in ordinary cases.

In malignant cases of a typhoid grade, where the vitality is very low, I resort to stimulants and the supporting treatment from the beginning, I think with advantage. It is astonishing to me to see how much stimulants are required in some cases to keep up the vitality until the disease has spent itself.

I have no specific or hobby on scarlet fever. I am not much of an admirer of specifics. I believe in treating symptoms in all diseases and grades.

Lucius Clark, M.D., of Rockford, Illinois, says: As to scarlet fever and its treatment, I have no specific plan. During eruption I anoint the skin with lard freely and often. If fever is high, as shown by thermometer, I use quinine in full antipyretic doses, also veratum viride carefully. If any symptoms of special congestion of kidney, I foment the lumbar region faithfully; for gargle, if fauces inflame, I prefer bisulphite soda, used same as I formerly used chlorate potash — I fancy it is a better anti-ferment. Also I direct some of the solution to be swallowed often, unless diarrhœa is present. I want mouth and fauces washed often; and not least, full and free ventilation all of the time.

Hiram Nance, M.D., of Kewanee, says: My method of treating scarlatina is very simple indeed. Believing scarlatina to be strictly a self-limited disease, and having no confidence in any remedial agent to abbreviate its course, my only object is to render my little patient as comfortable as possible until the *vis medicatrix naturæ* accomplishes the cure. In my opinion, as a general rule, there is too much medication, and I have taken the liberty to denounce the administration of specifics and vaunted remedies that have gained the reputation of curing

scarlatina, and would caution all young physicians not to place much confidence in the so-called new methods for its treatment.

An article was read before the State Medical Association, at Jacksonville, at its session in 1875, by one of our members, which related unparalleled success. I don't wish to criticise in this short article, but would say that if we could all succeed so well we need not look farther for a panacea. Better trust to continued *aqua destillata*, or any other *placebo*, than administer cathartics, emetics, and such like remedies. Let us err, if we err at all by the administration of any remedy, by not giving anything that will endanger the life of our patient.

I treat my patients, whether *simple*, *anginose* or *malignant*, nearly all alike, varying the treatment very little indeed, to suit the variety of cases and types. I feel confident that medical men have placed too much confidence in medicine in this disease; and I hope this short article may lead many young men to halt before anticipating speedy relief from some newly introduced remedy or new method of treatment.

When called to a patient, I immediately have the room properly warmed and ventilated, keeping the temperature at about 68° or 70°, with the windows let down from above; permit no drafts of wind through the room, but let the contaminated air escape from above. If we have more patients than one at the same house, let each little one have a couch or bed to itself; order all the cold water they desire, or even ice water and lemonade would not be inappropriate; also order the mother or nurse to rub the child four or five times a day thoroughly with lard, and not to be afraid of putting on too much; give no cathartic, nor permit the idea of emetic to enter my mind. Should the patient's bowels remain unmoved for four or five days, I order a mild injection, or give a small dose of magnesia, or what is probably better, give cream of tartar or *pulv. jalap. comp.*

From the time I am called until the exanthematous rash is entirely gone, I give to a child from two to three years old the following prescription:

℞ Acid. Hydro Chloric..... ℥j.
Syrup. Simpl..... ℥ij.
Pot. Chlorat..... ℥iij.
Aquæ Ros..... ℥ij.

M. Sig. One large teaspoonful every two hours; for a child six or eight years old, increase the dose to half a tablespoonful.

I consider this treatment a good one; and after a practice of about thirty years, I am not disposed in the least to try any other. If the patient is restless, nervous, and can't sleep, I give tinct. opii camph., or small doses of sol. morphiæ. If cerebral symptoms manifest themselves, I would give *hyd. chloral*, combined with potassic bromide. I never use any throat wash, nor probang saturated with any astringent or escharotic, believing that the muriatic acid and chlorate potash in the medicine are sufficient to cleanse the throat in the act of deglutition.

This is my treatment in brief, varying it but little in any case during the active stage.

A physician who leaves his patient for cured, and does not give strict instructions about the future nursing, is culpable in the extreme. No patient, no matter how light the disease has been, is safe for two or three weeks, for dropsy in some form is liable to make its appearance and hurry our little patient off with hydropericardium, ascites, albuminuria or some other allied symptom. So before leaving tell the mother or nurse to keep the patient in the house for ten or fourteen days; use warm flannel clothing, and sponge the surface every three or four days until the desquamation is complete.

H. Wardner, M.D., of Cairo, Illinois, writes: In my treatment of the disease my patients were isolated as completely as the circumstances of each case would allow. Free ventilation and even temperature were insisted upon, as well as cleanliness of the patient, the clothing, and all the immediate surroundings. The air of the sick room and of the house generally was disinfected by the use of bromo-chloralum, or other non-offensive disinfectants. Soiled clothing was soaked in water

medicated with carbolic acid, chloride of lime or permanganate of potash for twenty-four hours or more.

The patients were sponged during the febrile stage from two to six times in twenty-four hours, with water of a temperature to be agreeable to the patient. After the appearance of the rash they were anointed night and morning with olive oil, and this was kept up until after the desquamation was completed. When the oil was not convenient, a piece of fat bacon supplied its place. This part of the treatment I considered very important, for reasons not necessary to give here. A liniment, consisting of olive oil two parts, chloroform and aq. ammon. each one part, to which laudanum or belladonna was sometimes added, was applied to the neck and over any part where there was pain and swelling. Whenever suppuration was pretty certain, the parts were poulticed and the pus evacuated as soon as practicable. I used iodine in some cases, but did not see much benefit from it.

I used a gargle consisting of saturated solution of chlorate of potash *three parts*, glycerine *two parts*, tinct. digitalis *one* part, with a little morphine when required; also a gargle of solution of carbolic acid. These were used alternately every one or two hours, as required. Ulceration of the throat was treated by the application of tinct. chloride of iron, compound tinct. of benzoin or permanganate of potash, as required.

The internal treatment during the febrile stages consisted of very small doses of digitalis, combined sometimes with the same or smaller doses of sulphate of zinc. It is given in solution $\frac{1}{48}$ of a grain of each every two hours, amounting to $\frac{1}{4}$ of a grain in the twenty-four hours. In some cases the zinc is not well borne by the stomach, and must be left out. The tinct. of gelsemin. or spts. of nitre was given with, or alternately with the above, as indicated.

Lemonade was allowed freely where the stomach was not irritable. Where irritation of the stomach existed, equal parts of sweet milk and lime water were given as a drink in small quantities, and repeated as often as the patient desired or every hour or two.

Quinine was also an important remedy, and was used accord-

ing to the indications in each individual case. In young children it was made into an ointment, and rubbed over the body in place of the olive oil.

The sequelæ were treated on general principles with tonics, alteratives and local applications, *pro re nata.*

In dropsy I used iod. potash, but more especially the "skimmed milk" treatment. I will say that in albuminuria, from any cause, I have not found a more valuable remedy.

In the mildest cases but little medical treatment was employed, attention being principally directed to the surroundings and comfort of the patient.

In all cases an even temperature of the room was kept up as far as possible, and the patient forbidden to leave the house for two weeks after the subsidence of the fever, or until after the desquamation was completed.

DEATH FROM TWENTY GRAINS OF CHLORAL.

CHICAGO, February 12, 1877.

TO THE EDITOR OF THE CHICAGO MEDICAL JOURNAL AND EXAMINER: Dr. A. Ashbaugh has given me the following notes of a case of poisoning by chloral which he witnessed in the office of a friend, in Monville, Mo., about three years ago. The case has never been reported:

A German woman, about thirty-three years of age, apparently healthy, came into the office to have some teeth extracted. She desired some medicine to prevent the pain, and the doctor gave her ten grains of hydrate of chloral, which dose he repeated in one hour. Soon after the second dose the patient manifested alarming symptoms of poisoning, and although all was done that could be to resuscitate her, she died in about fifteen minutes. No *post mortem* examination was made. The patient had taken only two doses of the chloral, of ten grains each — the second having been given one hour after the first.

E. FLETCHER INGALS, M.D.

AN ELEGANT DISINFECTANT.

50 Douglas Place, Chicago, February 12, 1877.

Editors of the Chicago Medical Journal and Examiner:

Gentlemen—Allow me to call attention to a disinfectant, which, being free from disagreeable odor, is an elegant substitute for carbolic acid, chlorine, etc., and may properly supersede them in drawing rooms, sleeping rooms, etc., where odor would be objectionable. I refer to a solution of salicylic acid in *eau de cologne*. In "cologne" this acid is very soluble—my druggist dissolves thirty-six grains to f℥j. Its antiseptic virtues are well attested. It may be used by means of a spray atomizer upon carpets, curtains, clothing, etc.; and the physician will find it the pleasantest method of disinfecting his clothing to prevent the spread through him of the pestilential diseases which are affecting our city at the present time. Many persons—ladies especially—while traveling in horse cars and frequenting churches, halls, etc., drop a few drops of a solution of carbolic acid upon their handkerchiefs. It occurred to me that a good substitute would be an ordinary pungent, in which might be dropped some of the salicylic acid solution. It would certainly be a degree more æsthetic, which is not to be despised in public or private.

Dr. James I. Tucker.

The Superintendents of the American Institutions for the Improvement of Idiots and Feeble-minded Children having formed an Association for the more rapid advance and spread of their special part of medical science, resolved, not only to unite their efforts, but to seek the assistance of physicians in general practice who can help them to elucidate the cause of idiocy and kindred affections.

Communications from physicians of the cause of idiocy which have come to their knowledge from reliable witnesses or personal observation, should be sent to the Secretary of the Association, I. N. Kerlin, M.D., Superintendent of the Pennsylvania Training School for Feeble-minded Children, Media, Pennsylvania.

Selections.

THE FUNCTION OF THE UVULA AND THE PROMINENCE FORMED BY THE AZYGOS UVULÆ MUSCLES.

By THOS. F. RUMBOLD, M.D., St. Louis, Mo.

(From the St. Louis Med. and Sur. Journal, Dec., 1876.)

In the spring of 1870 I had a patient whose right nostril was of sufficient caliber to admit my little finger in its whole length. The idea occurred to me at once that this case pre-

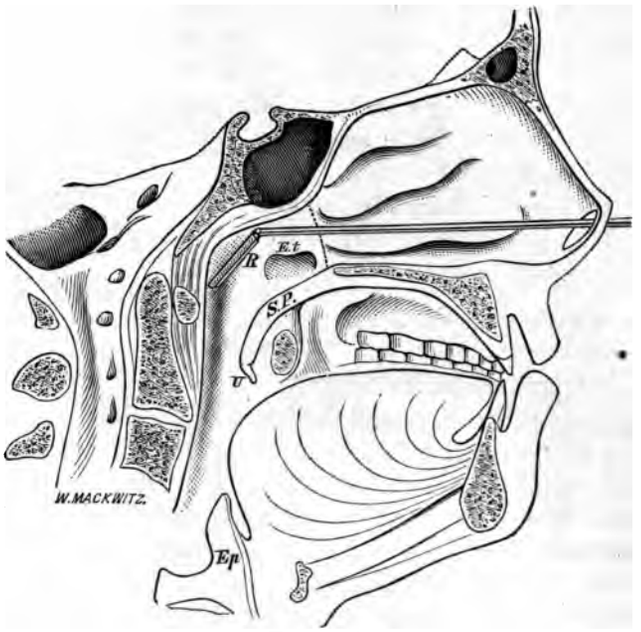

FIGURE 1.

Antero-posterior section of the head; R. reflector; S. P. soft palate; U. uvula; E. t. mouth of Eustachian tube; Ep. epiglottis.

sented an excellent opportunity for examining the uvula; and as our authorities say of this grape-shaped appendage, that

"its use is not clear,"* I determined to take advantage of this opportunity to inspect its motions during mastication, deglutition and vocalization.

I had the patient keep this nostril wide open with a Kramer bi-valve ear speculum. Through this large nasal passage, thus dilated, I passed a reflector reaching to the posterior wall of the pharyngo-nasal cavity (Fig. 1, R); on the mirror (R) I directed a calcium light, illuminating the parts under observation, so that the image was reflected back to my eye very dis-

FIGURE 2.

View of the posterior nasal passages, the posterior surface of the soft palate and base of the tongue; Pt N. posterior nares; E. t. Eustachian tubes; Az-Pr. azygos prominence, on the upper surface of the soft palate formed by the azygos uvulæ muscles; S-l. semi-lunar openings formed by the tongue, uvula and soft palate; T. base of tongue; Ep. epiglottis; U. uvula.

tinctly. In this way I was enabled to inspect the upper or posterior surface of the soft palate, and the prominence or ridge on it that the azygos uvulæ form (Fig. 2, Az-Pr), the base of the tongue (T), the epiglottis (Ep), and the larynx, at the time of the attempted phonation of the sound "æ" with the mouth closed.

My observations on this patient were continued for a period of five weeks. Subsequently I made numerous observations

* Dunglinson's Med. Dic.

of a similar character on six other patients, each of whom had lost the septum nasi, but had perfect soft palates.

From notes that were taken at the time of these inspections — about seventy-five in number — I will state what part, in my judgment, the soft palate, the uvula and the azygos prominence (Fig. 2, Az-Pr., and Fig. 3) take in the acts of mastication and deglutition, and what were their positions at the time of the phonation of such simple sounds as show enough of their action to demonstrate their proper function; reserving for the

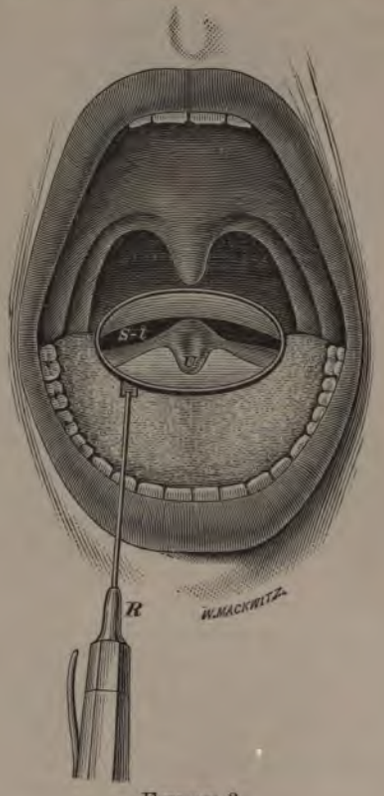

FIGURE 3.

The image, seen on the hinged reflector (R), of the lower edge of the soft palate and the lower or posterior concave surface of the uvula (U), showing, also, the higher semi-lunar-shaped openings (S-l) made by the azygos prominence touching the posterior wall of the pharynx.

near future the details concerning the position of these three organs, as well as that of the base of the tongue and the epiglottis during the phonation of specified sounds.

Although I know now that the uvula and the azygos prominence (Figs. 2 and 3) are not required to aid the acts of mastication and deglutition, yet I will give the results of the inspections while these processes were going on, because these results contain points of interest when taken in connection with phonation.

During mastication, the whole free border of the soft palate rested on the base of the tongue, reaching within a short distance of the epiglottis. In five of the cases, the uvula was not

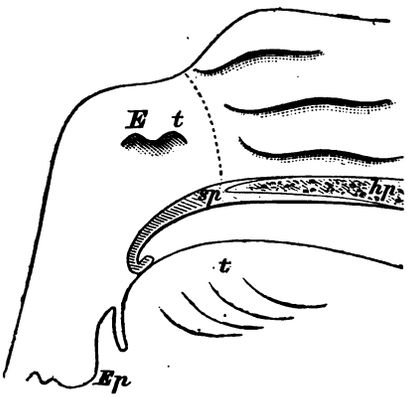

FIGURE 4.

Antero-posterior section of the hard palate (hp.) and the soft palate (sp.), showing the position of the uvula resting on the base of the tongue (t.); Ep. epiglottis; E. t. mouth of Eustachian tube.

in sight at any time, and seemed to be doubled under the velum, so as to lie between it and the tongue (Fig. 4). Two patients had elongated uvulas, which sometimes hung down on the base of the tongue, and frequently touched the epiglottis. The uvula was always contracted; the evidence of this condition was the increased height of the azygos prominence, formed by the contracted azygos uvulæ (Fig. 2, Az-Pr).

During the act of deglutition, the soft palate was pushed backward by the alimentary bolus until the posterior wall of

the pharynx was reached; the motion was continued in an upward direction until the upper surface of the velum was high enough to cover and close both Eustachian tubes (Fig. 2, S. P. E. t.) pushing the reflector (R) upward and forward; then the velum descended, as the alimentary bolus was swallowed, until its lower border touched the base of the tongue.

When I began to make observations, my attention was directed to the uvula alone; but the varying height of the azygos prominence during vocalization (Fig. 2, Az-Pr.) in this, my first patient, drew my attention to it, and what I discov-

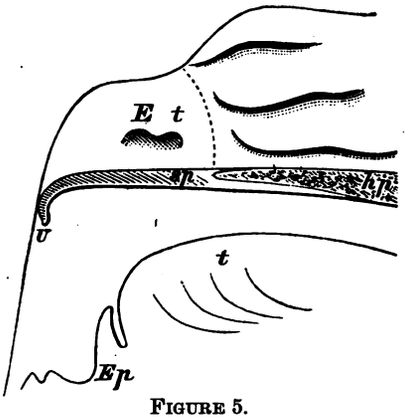

FIGURE 5.

Antero-posterior section of the hard palate (hp) and the soft palate (sp), showing the position of the velum closing the avenue to the pharyngo-nasal cavity; U. uvula; t. tongue: Ep. epiglottis.

ered with respect to it was confirmed in the subsequent examination of the other cases, namely: that this prominence, whose existence I had known for some time, though I had never thought of assigning to it any function or use, was of as much importance in vocalization as, if not more, than the uvula itself; so that, while seeking for the function of this grape-shaped appendage, I discovered a new organ, and ascertained its function at the same time.

During the vocalization of sounds that passed through the nose alone, the whole free border of the soft palate rested on the base of the tongue (Fig. 4), the uvula was not in sight at

any time. During the vocalization of sounds that passed through the mouth alone, the soft palate was raised, and about 4‴ of its lower border was pressed against the posterior wall of the pharynx (Fig. 5).

From repeated inspections made while the velum was in each of these two positions, it appeared that all the sounds were uttered without the aid of either the uvula or the azygos prominence.

The favorable opportunity for observing what assistance is rendered by the azygos prominence and the uvula is during the phonation of such sounds as are required to pass through the mouth and nose at the same time. While these sounds were uttered, the soft palate was either suspended, so that but a

FIGURE 6.

View of the anterior surface of the soft palate, the uvula and the base of the tongue, showing the lower semi-lunar-shaped openings (S-l.) formed by the uvula (U.) and a part of the central portion of the velum resting on the base of the tongue (B. T.)

small part of its central portion of the uvula rested on the base of the tongue (Fig. 6), or it was raised to such a height that the azygos prominence touched the posterior wall of the pharynx (Fig. 3). In each situation that the velum occupied, the communication between the fauces and the mouth, and between the fauces and the pharyngo-nasal cavity, was divided into two equal, or nearly equal, semi-lunar openings. In the first position named, the division was made by the uvula and a small part of the central portion of the velum resting on the base of the tongue (Fig. 6, S-l), and in the second position the partition was made by the azygos prominence (Fig. 3, S-l), touching the posterior wall of the pharynx. In one patient I noticed, on several occasions, that the uvula seemed to be

resting on the base of the tongue, while, at the smae time, the azygos prominence was touching the posterior wall of the pharynx.

The formation of the inferior or posterior surface of the uvula (Fig. 3, U,) as well as the peculiar position in which it hangs from the velum (Figs. 1 and 2, U,) indicates that this surface lies on the base of the tongue frequently, its extremity being directed forward (Fig. 4). It is evident that this position is the best one in which it could be placed to prevent the free edge of the soft palate from being shaken by the force of the air from the lungs.

It was observed, repeatedly, that the free border of the velum was not at any time suspended in the current of air during vocalization, but was always situated in such positions that it received support, which prevented it from being thrown into vibrations by the force of the air that came from the larynx. To show how the support was given, I will mention again all of the principal positions that this vocal valve was observed to assume. (*a.*) It was either elevated and pressed against the posterior wall of the pharynx (Fig. 5, U,) during the phonation of sounds that passed through the mouth alone; or, (*b.*) removed from this wall a small distance, but not so far as to prevent the azygos prominence from touching it (Fig. 3, seen in the image on the reflector R,) for sounds that passed mostly through the mouth and a little through the pharyngo-nasal cavity; or, (*c.*) lowered to allow the uvula and a small part of the central part of the velum to rest on the base of the tongue (Fig 6,) for sounds that passed mostly through the nose and a little through the mouth; or, (*d.*) still lower, so that its whole free border rested on the base of the tongue (Fig. 4,) for the formation of sounds that passed the nose alone. In a few instances, as have been mentioned, I have seen the second and third positions combined, *i. e.*, the uvula resting on the base of the tongue, and the azygos prominence touching the posterior wall of the pharynx at the same time (Figs. 6 and 3).

From the effect of these positions of the velum on phonation, it would appear that one of its functions is to act as a valve, by directing the voice from the larynx into the mouth

alone for the formation of one kind of tone; into the nose alone for another; and to divide the sound so as to allow it to escape from both of these openings for still others. It is evident that while the velum is resting wholly on the base of the tongue, or is pressed against the posterior wall of the pharynx, that the liability for its free border to vibrate by the force of the air is reduced to a minimum; but when this valve is in either position that requires it to divide the sound between the mouth and the nose, then, on account of its free edge being suspended and placed immediately in the current of air from the larynx, the liability for it to vibrate is increased to a maximum.

A provision is necessary to prevent these vibrations. This provision, I am led to believe from my observations, is found in the uvula and the azygos prominence formed by the azygos uvulæ muscles. It is located in the centre of this very mobile palate or valve, and by its support in both of the positions that require suspension (Figs 3 and 4,) prevents it from being shaken by the force of the current of air from the lungs. There can be no doubt, that if there were no uvula and azygos prominence to prevent this thin edge of suspended flesh from vibrating, it would be shaken to such a degree as to impart a tremulousness to the tone of all sounds forcibly uttered that pass through the mouth and nose at the same time.

The following questions have been asked frequently:

"1st. If the uvula is required to prevent the free border of the velum from vibrating during phonation, will not its loss impair the voice?

"2nd. How do you account for the improvement of the voice in many instances, after its removal?"

The excision of the uvula can affect those sounds only which are formed by its assistance, and not then, even, if they are pronounced with the usual strength of the voice, because the contact of the central portion of the velum on the base of the tongue will be support enough to prevent the velum from being shaken; therefore, the difficulty in pronouncing, in high and loud tones, those sounds that are required to pass mostly through the nose and a little through the mouth will be in proportion to the amount of loss of support that the velum

suffers; as usual excisions leave a stump of the uvula and the central portion of the soft palate, these will prevent any vibrations during speech made with the *usual* force of the lungs.

I have observed that a patient, who has just undergone an operation for excision of an elongated and hypertrophied uvula, may talk immediately in an *ordinary* tone with greater ease than before the operation; but, just as soon as he utters words with *more* than the *usual* force of voice, such, for instance, as he would require to address a person across the street, some of the efforts will remind him of the excised uvula, and though not causing as much pain as the knife did, will cause so much that he will be compelled to cut his sentence short of its intended length. The reason of this effect on the uvula appears to me to be this: the heavy uvula had given so much support to the soft palate that, although it had been acting as an impediment to all kinds of sounds, the velum required very little of its own pressure on the base of the tongue (Fig. 6) to prevent it from being thrown into motion by the air from the larynx; but when the superabundant portion of the uvula was removed, the velum required greater pressure upon the base of the tongue to prevent these vibrations, and this pressure was the occasion of the pain. Of course, the loss of the whole of the uvula does not interfere with the formation of the two semi-lunar-shaped openings by the free border of the velum and the dorsum of the tongue (Fig. 6), by which the voice is allowed to escape from the mouth, and thus provide for perfect vocalization; it takes away a *part only* of the support from the soft palate. Even if there be no stump left by the excision, the tongue will learn to overcome the defect by the increased elevation of its dorsum, which may be made more convex than was required to form the two semi-lunar openings than when the whole of the uvula was present, and in this way allow both of a greater pressure and more of the central portion of the velum to rest on the tongue. But if the soft palate suffer so much of a loss of substance in its central portion that its concavity is equal to the convexity of the dorsum of the tongue, thereby preventing the formation of the semi-lunar-shaped openings, and neutralizing all support, there will be some

sounds, such as pass mostly through the pharyngo-nasal cavity and a little through the mouth, given imperfectly, in spite of all efforts to overcome it, because the proper tone requires that the velum should be raised to allow a part of the sound to pass to the mouth, and this act of elevation exposes it to the force of the air from the larynx, which force is the cause of the imperfection of the sounds, by causing the unsupported edge to vibrate. Again, if the loss in the center of the velum be greater than can be closed by the greatest convexity of the dorsum of the tongue, the disability will be equal to that caused by a perforation of the soft palate, and in addition, there will be a tremulousness to many semi-nasal tones, on loud speaking, as addressing an individual at a distance. That the intermittent tone is occasioned by the vibrations of the central portion of the velum is evidenced by the pain in this part after lengthy speaking in a loud voice. This pain was experienced by two patients while under my care, whose soft palates were notched to this extent by ulceration.

In answer to the second question—"How to account for the improvement of the voice after the removal of the uvula?"—I would ask, if it is claimed that this improvement in speech is equal to the patient's vocalization at the time that his uvula was in a healthy condition. I am sure, because the observations made on this subject during the last five years have taught me to be so, that the answer to this question should be given in the negative. That a relative improvement in speech does follow an excision of an elongatated or hypertrophied uvula, there can be no doubt, because this operation brings the organ nearer to its normal size and condition; but it resembles the improvement made by perforating the membrana tympani in a case of deafness caused by a closure of the Eustachian tube; such an improvement can never equal the normal function of the organ. This being the case, the effect of the excision will be to remove the cause of a mechanical hindrance to every word uttered by the patient, made in any degree of force, and it will leave a stump which will not be a cause of hindrance, but a cause of an inability to pronounce some words on forced vocalization only, and this even will be overcome in

time by the dorsum of the tongue becoming more convex. Therefore, to admit that the removal of a uvula thus diseased may improve the ability to speak in the usual tone of voice, does not prove that it was the uvula's removal that was the origin of the improvement, for, if such were the case, the excision of the healthy uvula would not only be advisable, but desirable.

The effect of the amputation of the whole of the uvula, besides its being a loss of the greater part of the support to the velum, prevents the formation of the azygos prominence to its greatest height, which is done by the contraction or elevation of the azygos uvulæ muscles, which terminates in the uvula. This height of the prominence is required to prevent, by its contact with the posterior wall of the pharynx, the vibrations of the velum during the formation of many semi-nasal sounds.

The nearer that the surgeon can make the diseased uvula take the shape and size of the normal one, the nearer will it approach its normal function; that is, rendering the soft palate a non-vibratory valve, which is required for perfect phonation.

Hospitals.

ST. LUKE'S HOSPITAL.

FIVE CASES OF INTERNAL HÆMORRHOIDS TREATED BY THE CLAMP AND ACTUAL CAUTERY.

(UNDER THE CARE OF JNO. E. OWENS, M.D.)

CASE I. Internal piles, complicated with hypertrophy of the uterine cervix and painful ulceration at the anus.

Mrs. W., aged 44 years, was admitted to St. Luke's Hospital Jan. 10, 1874. Ten days after admission Prof. DeLaskie Miller amputated the neck of the uterus for hypertrophy. The patient had suffered from internal piles for seventeen years. Her health was seriously impaired from loss of blood from the rectum, from pain, and other distress occasioned by a cluster

of purple hæmorrhoidal tumors, which protruded on all occasions. Feb. 1, I applied the clamp and cautery seven times to as many tumors. A tag of skin, inflamed, œdematous and ulcerated was at the same time removed with the scissors. This patient did not recover with the promptitude usually noticed after operations for piles, and the case, in this respect, verifies Allingham's statement, that patients with uterine complications recover slowly from operations upon the rectum. She experienced a sense of obstruction while at stool; pain, more or less severe, began with defecation, and continued from one to six or eight hours after the completion of the act. The cut surface at the site of the tag of skin above referred to had become (Mch. 6) a painful ulcer, the upper margin of which barely touched the verge of the anus. As the ulceration did not pass within the anus,I hoped to be able to effect a cure without incision. Suffice to say that I failed with ointments, lotions, separation of its surfaces, nitrate of silver, rest, etc. Finally, April 22, I incised the ulcer and that part of the sphincter muscle contiguous to it. This relieved the characteristic pain, the ulcer healed, and the patient was discharged May 19th. Eleven weeks after the operations for hæmorrhoids an opportunity presented itself for the examination of the rectum with the object of noting its condition after the application of the actual cautery. The lower part of the rectum was less distensible than the normal rectum; its mucous membrane was smooth; firm, irregular scars were felt in and apparently beneath the mucous membrane, but they were not visible, and could only be located by the sense of touch. The patient has continued well to this date, Feb. 8, 1877.

Case II. T. O'B., aged 50 years, had suffered, in consequence of internal piles, for fourteen years. The tumors bled more or less every week, and protruded daily. He had some pain, frequently in the anus, and also over the sacrum, and about the hips. Thus afflicted, he was obliged to work, to ward off starvation. Having been admitted to the hospital, the operation with clamp and cautery (Leplié cautery clamp*) was

* See Braithwaite's Retrospect, July, 1874, page 118.

performed Jan. 2, 1875. Six applications were made. The patient was put to bed, and no dressings were used till Jan. 8th, when the swollen mucous membrane of the rectum, as is usual, protruded somewhat. This yielded to dressings of cold water, together with moderate pressure. The pain following the operation was of light degree. The bowels were kept constipated with laudanum for three or four days. The patient was discharged cured in eleven days from the date of the operation.

CASE III. H. D. G., aged 40 years, was admitted March 4, 1875. In this case the clamp and cautery were applied seven times, March 9, 1875; the patient was then put to bed and cold water dressings employed. Anodines were not indicated. March 10, A. M., an injection of two ounces of warm castor oil was ordered, and at 4 o'clock P. M. two drachms. The bowels moved at 7 o'clock P. M., and also on the morning of the 11th. The patient did not suffer. I have no note of the duration of the man's affliction, but the case was one of unusual severity. In consequence of hæmorrhage and pain he was absolutely unable to follow his trade, that of harness making. He had tried many so-called remedies without benefit. March 12, the third day after the operation, the patient expressed himself as feeling better than he had done in a long time, and started for his home in Indiana. I afterwards received a letter from him confirming the satisfactory result of the operation.

CASE IV. L. A. S., aged 44 years, a shoemaker, was admitted March 21, 1876. He had had internal hæmorrhoids for twenty years. During the last seven years the tumors had not bled, but previous to that time the hæmorrhages were of frequent recurrence. March 22, two applications of the clamp and cautery were made. The patient was put to bed without dressings. March 25, the bowels responded to injections of warm castor oil. The protrusions of swollen rectal mucous membrane was very slight, not greater in size than a pea. March 29, the seventh day after the operation, the patient went to his home in Illinois, about five hours ride from Chicago.

CASE V. M. M., aged 45 years, came to the hospital Aug. 11, 1876. The same day three large hæmorrhoids were disposed

of by means of the clamp and cautery. The subsequent swellings and protrusions of the mucous membrane were slight. The patient left the hospital Aug. 15, the fourth day after the operation.

COOK COUNTY HOSPITAL.

COMPOUND FRACTURE OF THE LEG; AMPUTATION; HOSPITAL GANGRENE; AMPUTATION OF THE THIGH; LIGATION OF THE EXTERNAL ILIAC ARTERY; RECOVERY.

R. V., a German carpenter, aged 44 years, admitted to Cook County Hospital May 6, 1872, states that, attempting to get on a street car while in motion, he fell under the wheels. On examination, it was found that the right leg was crushed, most of the lower third being involved. There were three small openings of the skin, but not much hæmorrhage. The main vessels were intact. The patient being opposed to having the leg amputated, it was decided to place it in a fracture box and to make light extension. Carbolic acid lotions were applied, and morphia was given to relieve pain.

May 21. Extensive gangrene of the soft tissues ensued, but finally a line of demarcation formed in about the middle of the leg. The patient was then willing to submit to whatever the surgeons decided upon. Dr. Freer amputated the leg at the junction of the middle and upper thirds. Circular operation.

Considerable inflammation and induration remaining below the knee, it was decided not to close the flaps with sutures, but simply to draw them together with adhesive straps.

July 27. Phlegmonous inflammation and protracted suppuration had followed the operation. The loss of the tissues and the consequent retraction of the integument had been so great as to leave no covering to the bone. Therefore the stump has to be reamputated.

July 31. Erysipelas extending up the thigh. The tincture of iodine, and cloths saturated in a solution of the acetate of lead were applied.

Aug. 20. Discharged from the hospital at his own request.

Oct. 1. Readmitted to hospital, because the stump failed to heal. The acid nitrate of mercury was applied.

Oct. 18. The stump acquired a healthy granulating surface. Three points were inserted by grafting.

Oct. 28. The patient has not been feeling well for several days, having considerable fever, thirst, loss of appetite, coated tongue, and great pain in the stump. The latter has assumed a gangrenous aspect in the granulated portion. The edges are being eaten away very fast. Quinine is prescribed in four-grain doses three times daily, and carbolic acid is applied to the stump.

Nov. 7. The sloughing has ceased, and the patient is doing moderately well.

Nov. 10. Stump clean, although it gives him pain. Appetite poor. Soreness of the throat complained of. Upon examination a small, deep, well-defined ulcer was discovered on the right side of the soft palate. Tincture of iron and chlorate of potash were ordered as a wash.

Jan. 28, 1873. Reamputation of the stump by Dr. Powell, three-fourths of an inch of bone being removed. There was considerable hæmorrhage. The wound was left open for an hour or so. When nearly all bleeding had stopped it was stitched together, but had to be reopened in a short time and packed with sponges soaked in persulphate of iron solution.

Jan. 29. The sponges were removed and the wound was packed with lint soaked in carbolized oil.

Feb. 3. A slight hæmorrhage took place this morning. Stump very tender. A violent hæmorrhage about 4 P. M., the blood coming from the popliteal artery, the tissues being very soft and the artery retracted. A tourniquet was applied, and the open end packed with sponge soaked in a solution of the persulphate of iron.

Feb. 4. A little bleeding again this morning. 3 P. M. Dr. Powell amputated the thigh at the junction of the lower and middle thirds. There was but very little hæmorrhage. The cut surfaces were closed at the end of an hour by sutures. About an hour later slight bleeding occurred, enough to stain the dressings.

Feb. 5. About one o'clock this morning a little more hæmorrhage took place. About three o'clock the stump became very painful, and a short time afterward bleeding again was noticed. About four o'clock the dressings and bed were considerably stained.

Feb. 18. Two weeks to-day since the last operation. All the ligatures except one have come away. About noon, while the patient was resting quietly in bed, he felt a slight twinge in the stump, followed in a few moments by bleeding. The bandage becoming saturated, the hæmorrhage ceased.

Feb. 23. About noon a copious arterial hæmorrhage occurred. Dr. Bogue ligated the common femoral artery about half an inch below Poupart's ligament. The artery appeared to be very friable; for, in passing the ligature, the artery was accidentally opened. Another copious hæmorrhage ensued. The artery was tied both above and below the puncture with a silver wire, the ends of the knot being cut off close. The surface wound was stitched together with silver wire.

Feb. 28. Stump looking well. A slight discharge of healthy pus from the wound over the femoral artery.

March 13. Wound over the femoral is discharging considerably; a little discharge from the inner and outer angles of the stump.

March 20. The upper femoral ligature ulcerated through to the surface of the wound, and was removed.

March 22. The lower knot came away to-day.

March 25. Another hæmorrhage last night from the end of the stump which had healed over, except two minute openings, not much larger than a knitting-needle at the outer angles. The blood came through both openings, perhaps two ounces in all. A wet compress was put over both openings and a bandage around the stump.

March 28. A copious hæmorrhage about two o'clock this morning from the wound in the groin. This is the thirty-fourth day since the artery was tied, and the seventh since the second knot came away. The opening at this time was about two inches in length and half an inch in its greatest depth, and was dressed with lint soaked in alum water. The

blood jetted up with such force as to throw the dressing from the wound. The patient says the stream was as large as the tip of his index finger. The house surgeon was at his bedside in five minutes after the first escape of blood. The blood was then running from the wound at both angles. The bed was saturated, the patient lying in a perfect pool of blood, partly clotted. Pressure over the pubic bone arrested all bleeding. Ether was administered, and Dr. Bogue proceeded to tie the external iliac artery, Dr. Powell assisting. The peritoneum was wounded a little during the operation. The ligature, a double silk waxed thread, was passed without any trouble. The ends of the ligature were brought out at the inferior angle of the wound. Four deep and five superficial silk sutures were used in closing the wound. Adhesive plaster, compress and roller were applied. Hot milk punch was administered, and morphia by injection, to relieve pain.

April 2. Stitches removed; wound gaps a little and discharges a good quantity of pus.

April 21. The ligatures of the iliac artery came away this morning; wound looking well.

June 6. Patient has recovered at last to be discharged, 122 days after the amputation of the thigh.

Book Reviews.

A Century of American Medicine. 1776—1876. By *Edward H. Clarke, M.D.*, late Professor of Materia Medica in Harvard University, etc; *Henry J. Bigelow, M.D.*, Professor of Surgery in Harvard University, etc; *Samuel D. Gross, M.D., LL.D., D.C.L., Oxon.*, Professor of Surgery in the Jefferson Medical College, Phila., etc; *T. Gaillard Thomas, M.D.*, Professor of Obstetrics, etc., in the College of Physicians and Surgeons, New York, etc.; and *J. S. Billings, M. D.*, Librarian to the National Medical Library, Washington, D. C. Philadelphia: Henry C. Lea. 1876.

The profession will welcome this addition to our literature.

As a record of American Medicine, during the last hundred years, it is of great value. But that is not its only merit. The eminent authors of the five papers which constitute the volume have stamped their own opinions upon the material gathered. The paper upon *Practical Medicine*, by Dr. Clarke, is worthy of its learned writer. No other man is so well fitted to write a "History of the Discovery of Modern Anæsthesia" as Prof. Bigelow. He has collected all the correspondence which passed between the men, each of whom claimed the honor of discovering the anæsthetic properties of sulphuric ether. Prof. Gross is pre-eminently the man to write the history of surgery. Prof. Thomas and Dr. Billings have contributed valuable and instructive papers. The entire work is one of which the American profession may well be proud. A brief resumé of the book is all that can be attempted in this review. Dr. Clarke begins the century by placing Hunter and Bichât as the landmarks from which all other investigators of their time took their reckonings. He calls these two men the "founders of modern physiology and pathology." Our colonists had little time for engaging in scientific experiments. The development of our agricultural, manufacturing and commercial interests was the first thing to be attended to. But the medical profession were not idle; they found time for some experiments and investigations. Among the prominent men who figured in the early history of our country were Rush, Physick and Chapman, of Philadelphia; Hosack, Watson, Francis and Mott, of New York; the Jacksons, Warrens and Bigelows, of Boston, and others. The first medical lectures were given in Philadelphia by Dr. Cadwallader, just prior to 1751. However, the first regular course of scientific medical lectures was given by Drs. Morgan and Shippen, about the year 1765. Now, about two thousand persons annually graduate from the medical colleges of this country. (About one thousand five hundred too many.) Of the physicians who figured in the early history of this country, Dr. Benjamin Rush stands pre-eminent. To quote Dr. Clarke, he was "an ardent patriot, a friend of Washington, a signer of the Declaration of Independence, and was not only eminent as a physician, but

was distinguished as a philsopher and scholar." His treatise on Diseases of the Mind, and his observations on Yellow Fever were both valuable. To Dr. Gerhard, of Philadelphia, belongs the credit of demonstrating the differences between typhus and typhoid fever. Dr. Deveze, of Philadelphia, was the first writer who maintained that yellow fever is non-contagious; and Prof. Alonzo Clark, of New York, was the first to show that the pathological change of the liver in this fever is the result of fatty degeneration. Diseases of the chest have found a most intelligent exponent in Dr. Henry I. Bowditch, of Boston. Thoracentesis has come to be recognized as a tolerably safe, and frequently a nesessary, operation; and its recognition as such, by the profession, is almost entirely due to Dr. Bowditch. Says Dr. Clarke, "the principle of M. Dieulafoy's aspirator is the same as that of Dr. Bowditch's exploring trocar and cannula, with suction pump attached." The study of consumption has occupied much attention in the profession. Among the writers and investigators on the subject Dr. Bowditch holds a high place; also Prof. Austin Flint, of New York. The flexible stethoscope was introduced by Dr. C. W. Pennock, and has since been modified and greatly improved by Dr. Cammann, of New York. Richard Bayley, of New York, as long ago as 1781, pointed out the differences between membranous croup and diphtheria. Dr. John Ware has added valuable contributions to the literature of this subject. Prof. J. C. Dalton, of New York, and Dr. S. Weir Mitchell, each in his respective line of work, Physiology and Neurology, have made a brilliant record; but it is impossible in this sketch to touch upon all the points in this excellent paper. According to the U. S. Dispensatory, chloroform was discovered by Mr. Samuel Guthrie, of Sackett's Harbor, N. Y., in 1831. Almost simultaneously Soubeiran, of France, and Liebig, of Germany, made the same announcement. It is evident, however, that none of the three knew anything of the anæsthetic properties of chloroform. Prof. Bigelow knew, personally, all the experimenters with sulphuric ether, was familiar with all the experiments with the agent, and was present at the first surgical operation under it. His essay goes far towards set-

tling the question as to whom the discoverer was. The three claimants were Drs. Wells, Jackson and Morton. We have not space to give the arguments and statements of Prof. Bigelow at length, but his conclusion is this: "*Nobody has ever doubted* that Jenner was the inventor of vaccination, *and nobody should doubt that Morton was the inventor of modern anæsthesia.*"

Prof. Gross, an Englishman himself, gives great prominence to English surgery, which is only just; but he also gives a fair representation of the surgery of America. See the list of names: Rush, Warren, Physick, Dudley, of Kentucky, Dorsey, author of the first treatise on surgery ever published in this country, Ephraim McDowell, the originator of ovariotomy, Nathan Smith, Davidge, of Maryland, Mütter, Mott, and Daniel Brainard. Of Prof. Brainard, Gross says, "A bold operator, a successful practitioner, and an original thinker, he held, for many years, the leadership of surgery in the Northwestern States of the Union." A further mention of the eminent names in American surgery gives us that of Dixi Crosby, for many years the able professor of surgery in Dartmouth College, Dr. Amos Twitchell, of Keene, N. H., and a host of others. Prof. Gross says, "it is not at all likely that America will ever again produce four surgeons of equal renown with Valentine Mott, John C. Warren, Philip H. Physick, and Benj. W. Dudley." For "it is not at all likely that an equal number of young practitioners will again be placed under equally advantageous circumstances for their development." Among the men who have especially signalized themselves in the ligation of arteries are McGill, of Maryland, Mott, Smythe, of New Orleans, J. Kearney Rodgers, Willard Parker, Prof. McGuire, of Richmond, Va., and others. In the treatment of fractures, Lenox H. Hodge, Gurdon Buck, Nathan R. Smith, and Dr. Hodgen, of St. Louis, are conspicuous. Dr. Wm. W. Reid, of Rochester, N. Y., is the man to whom very great credit is due for advocating the reduction of fractures by manipulation; and his fame ought to be, and is, shared by the present professor of surgery in Rush Medical College, Dr. Moses Gunn. The credit of first using the trephine for the

relief of inflammation and abcess of bone is generally ascribed to Brodie; but, according to Gross, it should be given to Dr. Nathan Smith, of New Haven, who performed the operation in the latter half of the last century. Dr. Walter Brashear, of Bardstown, Ky., first led the way in amputations at the hip joint. Prof. Thomas has contributed an able paper, and has covered the field of obstetrics and gynæcology quite thoroughly. Our space admits of only a sketch of his work. Dr. James Lloyd, of Boston is believed to be the first physician who devoted himself exclusively and systematically to the practice of midwifery. Dr. S. V. B. Tennant, of New York, was among the first to lecture upon the subject of obstetrics and diseases of women. Ephraim McDowell, of Danville, Ky., fairly electrified (and it may be said horrified) the medical fraternity by the daring operations for the extirpation of ovarian tumors. This remarkable man was ridiculed and derided by the European journals when he first announced his innovation in surgery. Dr. Nathan Smith, in 1809, performed ovariotomy without the knowledge of its having been done by Dr. McDowell. Ovariotomy was not performed in Germany, England and France until the years 1819, 1836 and 1844, respectively. E. R. Peaslee, Kimball, Dunlap, John L. and W. L. Atlee, Wm. P. Dewees, Meigs, Hodge, Bedford, of New York, who first established the custom of clinics for diseases of women in this country, Marion Sims, whose speculum is known the civilized world over, H. R. Stover, Parvin, of Indiana, Byford and others, are mentioned as among our eminent obstetricians and gynæcologists. Dr. Billings has given us first the quantity of books and periodicals heretofore published by us. The footings are about as follows: American medical books, 2,241: reprints and translations, 2,429; medical journals, 332; volumes of transactions of medical societies, 336. The increase in the amount of medical literature published in the United States has been commensurate with the increase in the population of the country. Concerning the quality of these publications, it is unnecessary to say that the range is very wide. Such treatises as those of Gross, Flint, Wood, Stillé, Dalton and others, will compare favorably with the works of European authors on like

subjects. A large portion of Dr. Billings' paper is devoted to biographical sketches of American physicians and surgeons. We are not without a medical lexicographer, whose name reflects honor upon the profession. It is not too much to say that Dr. Robley Dunglison holds the same place in the medical world that Noah Webster occupies in the department of general letters. The essay of Dr. Billings will repay a careful perusal. B. W. G.

THE MEDICAL AND SURGICAL HISTORY OF THE WAR OF THE REBELLION. Part II. Surgical Volume II. Prepared under the direction of *Joseph K. Barnes*, Surgeon General U. S. A. By *George A. Otis*, Assist. Sur. U. S. A.

The present volume of 1024 quarto pages continues a presentation of facts regarding wounds and injuries, according to regional classification, through four chapters, numbered continuously with those of the first surgical volume.

Two hundred and eight pages (chapter VI.,) are devoted to a consideration of contusions and wounds of abdominal parietes, vesical injuries without external wounds, penetrating wounds of the abdomen and abdominal effusions, a tabulation of 8,538 cases of wounds, with a record in detail of 610 cases.

Injuries of the pelvis are considered in chapter VII., which embraces 215 pages. Under this head are included shot fractures of the pelvic bones, injuries of the parts contained in the pelvis, and injuries of the genital organs. Thirty-one hundred cases of wounds of the pelvis are enumerated, six hundred and ten being detailed.

In chapter VIII. some reference is made to flesh wounds of the back.

The concluding chapter upon wounds and injuries of the upper extremities, covering nearly 600 pages, presents a summary of facts pertaining to sword, bayonet and other cuts, stabs and shot wounds. The materials are arranged according to that classification which bases the principal divisions on regional, and the subdivisions on structural characters. The facts reported concerning punctured, incised and shot wounds of the upper extremities are distributed in eight lectures, treat-

ing, respectively, of flesh wounds, shot fractures of the clavicle and scapula, wounds of the shoulder joint, shot fractures of the humerus (shaft), wounds of the elbow joint, fractures of the bones of the forearm, wounds of the wrist joint, shot fractures of the metacarpus and phalanges. The work is illustrated in the most creditable manner. We can only, however, note the scope of that volume as a part of a work of which the profession of our country may justly feel proud. J. E. O.

I.—A TREATISE ON THE SCIENCE AND PRACTICE OF MIDWIFERY. By *W. S. Playfair, M.D., F.R.C.P.* Philadelphia: H. C.Lea. 1876. Pp. 576.

II.—A MANUAL OF MIDWIFERY. By *Alfred Meadows, M.D.* Second American, from the third London edition. Philadelphia: Lindsay & Blackiston. 1876. Pp. 490.

III.—A SYSTEM OF MIDWIFERY. By *William Leishman, M.D.* Second American, from the second English edition. Philadelphia: Henry C. Lea. 1876. Pp. 776.

IV.—THE STUDENT'S GUIDE TO THE PRACTICE OF MIDWIFERY. By *D. Lloyd Roberts, M.D.* Philadelphia: Lindsay & Blackiston. 1876. Pp. 317.

I. In the preface of this recent contribution to obstetric literature, the author expresses it as his object to place in the hands of his readers an epitome of the science and practice of midwifery, which embodies all recent advances. In a word, we think the writer's object is well accomplished in the treatise.

Probably in no other department of medicine has greater advancement been made than midwifery. To be satisfied with the force of this, one has only to contrast Dr. Playfair's humane views, recommending the frequent use of the forceps, with the inhuman proscription of this great aid of a few years ago; and this is but one of a great many points of contrast. Part V. of the book, in which is treated the puerperal state and its management, contains so much that is new, that the old practitioner must feel that he is reading a new science. This part is of great value to the practitioner.

We cannot recommend this book to the beginner; in fact, it obviously was the author's aim to write a book solely for the

advanced student and practitioner. The book is not sufficiently elementary. There is a lack of explicitness in description and definition which precludes this for the first book. It may be argued that the definition of natural labor, for example, is but conventional, and really not important to be remembered in practice. Still, we think it essential that the student should early commit to his understanding certain usual conditions and phenomena, to serve as points of departure. Subsequently, when in practice, it will be easy and perhaps proper for him to look upon the divisions and stages of labor, and of other processes, as arbitrary, and intended for the learner. Besides this objection, the writer is not always accurate; as for instance, on page 93, he says the umbilical arteries are divided from the abdominal aorta. While this is not strictly an anatomical untruth, it is more exact to say, and surely well for the beginner to know, that the umbilical arteries arise from the internal iliacs.

The style of the writer is generally clear and readable. The type and general appearance of the book are attractive. Finally, we should not omit to say that the usual obstetric cuts are generally interspersed throughout the book; the first two pages are embellished with two excellent plates taken from a vertical section of the frozen body during the ninth month of pregnancy.

II. This book has been favorably known in this country for a long time, and deservedly so; for we are not acquainted with a more concise, at the same time complete manual, than this.

We especially recommend it to students to read in connection with their lectures on midwifery, when their time is too limited to read a larger treatise. The author still calls his book a manual; in reality it is wholly unlike the multitude of obstetric hand-books, and may well be called an abridged treatise on midwifery. The recent revision and enlargement that the book has undergone have very noticeably increased its value.

That this book is recommended as a text-book by many of the leading scholars of medicine in this country is sufficient evidence of the favor in which it is held. In a word, we know

of no better book on the subject in our language, for both the student and practitioner. The value of the book is enhanced by this second edition, which contains many notes by our countryman, the late Dr. Parry, whose work on extra-uterine pregnancy attests his ability to edit a treatise on obstetrics.

IV. This is a small hand-book which the author says "is written mainly for instruction of students." We repeat what we said of another book of this character, that we question the usefulness of hand-books in any department of medicine, especially of obstetric hand-books. They are in every respect too incomplete for the student, and what practitioner would be satisfied with a book of reference that contains so little! We do not doubt that this is quite as valuable as other books of its class. E. W. S.

CLELAND'S DISSECTIONS; a directory for the dissection of the human body. By *John Cleland, M.D., F.R.S.*, Professor of Anatomy and Physiology in Luren's College, Galway. Philadelphia: H. C. Lea. 1877.

This is a neat little volume of 182 pages, of convenient size to carry in the pocket. The subject matter is well arranged, the paper fine, printing clear and distinct. Altogether, it presents a very attractive appearance. It is a matter of no little importance to the student engaged in practical anatomy to know how best to take the body to pieces, so as to show everything to the greatest advantage. The "Directory" will tell him exactly how to do this; so, with its aid, supplementing the admirable work of Gray, dissecting is rendered much more profitable than it would otherwise be.

It does not give the origin and insertion of the muscles, but tells where and how to cut or turn them aside, so as to expose to best advantage the parts beneath.

We cannot too highly recommend it to the zealous student who wishes to make the most of his opportunities while studying anatomy in the dissecting room. A. B. S.

EPITOME OF SKIN DISEASES, WITH FORMULÆ, FOR STUDENTS AND PRACTITIONERS. By *Tilbury Fox, M.D., F.R.C.P.*, Physician to the Department for Skin Diseases in Uni-

versity College Hospital, etc., and *T. C. Fox, B.A., (Cantab.,) M.R.C.S.* Philadelphia: Henry C. Lea. 1876. Pp. 120.

It is said that for every article which has been offered for sale, sooner or later a purchaser has been found. Even the now traditional coffin with a plate inscribed with the name of Thompson, was finally knocked down to a genuine bidder.

We suppose that the large class of men who deliberately choose to buy epitomes, hand-books and pocket editions will always be with us. We wonder who they are and for what they purchase these wares, but the mystery is never cleared up. They must outnumber all other buyers. The consequence is, that whatever these pigmy publications may or may not contain in the way of information, there is always "money in them." Few medical gentlemen of repute care to provide themselves with these pocket companions, and medical students, as a rule, are too hungry to be satisfied with such light repasts of literature.

For those who desire to find the subject of seborrhœa condensed into a single small page, and of eczema into two equally small pages, this little volume will become a perfect treasure. For him who desires to learn how to combine borax, glycerine and rice water, or calomel and lard, these pages will prove a sapient counsellor. It is true that some of the conspicuous carelessness of the elder Fox, in his large and really valuable treatise is here reproduced. It is true, also, that the use of such books tends to make the student superficial, and the practitioner careless. But what of that? This very little book, written by one great man, assisted by his son, who is not yet great, will be purchased by thousands. It will pass through subsequent editions, will help some men, will hurt others, and will be succeeded in turn by a still smaller volume, written by some author who is clever enough to put the text in smaller type. And there are those who will read this single page on psoriasis, and think they have mastered the subject, when, if their eyes were but opened, they would see the whole field of pathology lying mist-covered before them.

HEALTHY SKIN: A POPULAR TREATISE ON THE SKIN AND HAIR, THEIR PRESERVATION AND MANAGEMENT. By *Erasmus Wilson, F.R.S., F.R.C.S., etc., etc.* Philadelphia: Lindsay & Blakiston. 1876. Pp. 306. 8th edition.

Certainly a desirable end would be gained if every gentleman who had attained eminence in some special department of medicine, could write a good, popular treatise on the subject upon which he is presumed to speak with authority. Such works, if they could secure general circulation, would prove valuable as one means of dispelling the erroneous views of the public upon many medical subjects. But, unfortunately, the successful author in science has rarely the training and instinct requisite for such a task. The success which he has attained in one direction, actually disqualifies him for progress in the other. Lord Macaulay, fond as he was of children, would probably have failed if he had undertaken to write a book especially for his little friends.

Some of the chapters of the popular treatise before us, especially those upon the hygiene of the skin and hair, are admirably adapted to the end in view. But of the work, as a whole, we must express the conviction that it is of the class which may convey that dangerous thing, "a little knowledge," to the ignorant reader. He who is capable of reading it intelligently, and of being sufficiently interested in the subject to read it carefully, had better purchase at once Mr. Wilson's larger work. The non-professional reader who has once wrestled with "molluscum contagiosum," "plica polonica" and "calcareous miliary tubercles" in this *popular* work, surely should be sufficiently advanced in his nomenclature to be able to dispense with such terms as "St. Anthony's fire," "red gown," "humid scall," "mattery pimples," *et id omne genus.*

When patients begin to use their own depilatories, and to treat themselves for "rupia" and "ecthyma," then it would seem to us to be time for the physician to take his leave.

BOOKS AND PAMPHLETS RECEIVED.

A practical treatise on Diseases of the Skin. By Louis A. Duhring, M.D., etc. 1877.

Mansill's Almanac of Planetary Meteorology and New System of Science. By Richard Mansill.

The Kentucky Infirmary for Women and Children. Report.

Peripheral Paralysis. By F. T. Miles, M.D., etc. Being No. XII. of Vol. II. of "American Clinical Lectures."

Twenty-fourth Annual Announcement Medical Department University of Vermont.

Full term Extra-Uterine Gestation of the Tubo-Ovarian form, with special examination of the Sac, Uterus and Appendages. By A. Sibley Campbell, M.D.

Charter, Ordinances and By-Laws of the College of Physicians of Philadelphia.

Liebig's Extract of Malt and its Chemical Composition, Manufacture, and Therapeutical uses. By F. H. Davis, M. D.

Fourth Biennial Report of the Board of State Commissioners of Public Charities of the State of Illinois. November, 1876.

Transactions of the Medical Society of the District of Columbia. December, 1876.

Remarks on Intra-Uterine Polypi, with special reference to their Diagnosis and Surgical Treatment.

Transactions of the Wisconsin State Medical Society. 1876.

Report on the Influence of Climate on Pulmonary Diseases in Minnesota. By Franklin Staples, M.D.

Medical News and Items.

Rush Medical College.—The thirty-fourth Annual Commencement Exercises of Rush Medical College were held in the new college building, corner of Wood and Harrison streets, Wednesday evening, February 21, 1877. The large amphitheatre was crowded by nearly a thousand physicians and friends of the college. Many hundreds were unable to gain admit-

tance to the overcrowded audience room. The presence of ladies and excellent music contributed largely to the enjoyment of the occasion. After prayer, by the Rev. Francis L. Patton, D.D., of the Presbyterian Theological Seminary, President J. W. Freer, M.D., conferred the degree of Doctor in Medicine upon one hundred and three gentlemen who have complied with the requirements necessary to obtaining the degree. From the appended list of graduates furnished for publication, *fifteen* significant erasures indicate that as many ambitious young hearts were saddened by not bearing their examinations to the satisfaction of the Faculty's demands.

Graduates' Names.—Eugene Savillian Atwood, Silas Addison Austin, Charles Rucker Aiken, Abraham Ashbaugh, Macaulay Arthur, John Wesley Andrews, George Edward Brown, Vernon Roe Bridges, William Thomas Belfield, William Harden Boals, George Henry Barney, William Allds Burnham, Herbert Roderick Bird, John Charles Bryan, Thomas Davis Baird, Benjamin Hurst Bean, John Wesley Clendening, James St. Clair C. Cussins, Robert Cottington, Charles Augustine Cromett, Charles Edward Clingan, Andrew M. Crawford, Charles Edwin Caldwell, Irving Le Roy Cutler, Charles Peter Caldwell, William Joseph Conan, George Patrick Cunningham, Daniel Chambers Darroch, Levi Dixon, William Morris Evans, James Marcus Everett, Frank William Epley, William Robert Freek, Dexter Boylston Farnsworth, John Welton Fisher, George Washington Gurnea, George Frederick Gay, William Martin Graham, William Orlando Harland, Edwin William Hunter, Charles Addison Hayes, Hamilton Worth Hewit, Sylvester Clay Ham, Newell Hiram Hamilton, Joseph Mosher Heller, Virgil Eusebius Hestwood, Lyman Drake Jackson, William Henry Jennings, Jacob C. Joralemon, Charles Ludwig Koch, Henry Charles Kerber, Frederick Simon Luhman, Edwin J. Lewis, Leslie Coulter Lane, John Wesley La Grange, James Lawless, John Hinton Lowry, Elmer Fremont Latta, Charles Adolph Luscher, Ottul Klaranus Lindboe, William Herbert Lynn, James McDougle, Joseph Constantine McMahan, John Randolph McCluggage, Theodore Warner Morse, John Wellington Morton, Freeman C. Mason, Thomas

Coleman Malone, Hosea Fountain C. Miller, Jesse Marion Mathes, William Netter, Edwin McLean Northcott, Frederick Robert Nitzsche, James Henry Plecker, George H. Peters, William F. Quirk, Frank Darlington Rathbun, Hugh Alexander Rose, Joseph Bently Rogers, John Allen Russell, Albert Bird Royal, James Lee Reat, Milo Wakely Scott, Horace Woodbridge Smith, Farquhar Stuart, Oliver Thomas Shenick, Thomas Patrick Shanahan, Myron Arthur Tibbits, James Lewis Taylor, Merritt Walter Thompson, William Hull Ten Brook, William Treacy, Ryan Teeguarden Van Pelt, Clark Wesley Voorus, Charles Myron Willis, Clarence Scott Wells, Winfred Wylie, William Henry Washburne, Joel Wallace Whitmire, Robert Henry Williamson, Charles Zuppann. *Ad Eundem*—James Degman Reynolds, M.D., Julius Otto, M.D., Charles Peter Caldwell, M.D.

The President of the Faculty *mare mojorum* followed the bestowal of diplomas with his brief charge to the class. He warmly commended their high attainments, unswerving fidelity to the conscientious use of their time during the past five months, and uniform courtesy to their teachers, congratulating them upon having successfully passed an unusually severe set of examinations.

At the conclusion of this address, Dr. Chas. A. Hayes, on behalf of the class, delivered the class valedictory, thanking the Faculty for their teachings, and promising many good things for the future.

After Dr. Hayes, Prof. Jos. P. Ross proceeded to pronounce the valedictory address of the occasion. We regret our inability to reproduce this address in full, for it was one replete with wise advice to the aspiring young doctors before him, and was a farewell word, eminently appropriate to the termination of a protracted and finishing course of instruction in medicine.

After the benediction and music, the large audience wandered through the capacious building, subjecting every part of it to inspection and criticism.

A more enjoyable occasion in medical matters in Chicago, it has scarcely ever been our good fortune to participate in. The happy faces of the graduates, the settled, comfortable satisfac-

tion expressed in the countenances of the Faculty and Trustees over their elegant new home, and the general *bonhomie* of the audience, combined to impress every one present that it was good for them to be there.

At the *Woman's Hospital Medical College* the following students have been graduated: Blanche O. Burroughs, Aurora, Ill., Louisa Dawson, Evansville, Wis., Ellen Von Rolshausen, Chicago, Jennie E. Tarbox, Freeport, Ill. They received their diplomas at the commencement exercises in the First Methodist Church, February 27.

The Library of the Chicago Medical Press Association will, on March 1st, be removed from the Academy of Sciences to a spacious room, the use of which is generously donated by Dr. E. Ingals, at 188 South Clark street. This location, in the very centre of the city, is easily accessible from each division, so that even the busiest practitioner may avail himself of the privileges offered by the Association.

The Library, as soon as the hurry and confusion of moving are over, will be kept open by a regular attendant at least six hours each day for the use of members. In our next issue will appear a card from the Librarian regarding the condition and needs of the Library. We will say now, however, that any donations of books addressed to the Library at the above number will be duly and gratefully received.

[The following bill, introduced into our State Legislature by Mr. Joslyn, January 8, 1877, has been ordered to a third reading. Pending this order, a new, and much more comprehensive bill has been introduced, the daily papers inform us. While this bill is ostensibly calculated to protect the *dear* public (which never loses an opportunity to belittle educated physicians and to run mad over blatant quacks,) it will result in driving charlatans in swarms to the under-fed, half-clothed colleges, whose chief occupation is to sell diplomas. Armed

with such sheepskins, these vermin can sit under your noses and ours and defy educated physicians to purify the ranks of the profession again. Bills of this sort do no good. Medical matters can be legistated into optimism *only* by controlling the colleges, or by exacting from them the proper qualifications in graduates before bestowing diplomas. First class colleges need no such legislation. "Diploma mills," as the great Cowling calls them, would be ground to powder by it, and *they* are what legislatures should severely turn their attention to.—ED.]

A BILL for an act to Regulate the Practice of Medicine and Surgery in the State of Illinois.

SECTION 1. *Be it enacted by the People of the State of Illinois, represented in the General Assembly*, That it shall be unlawful for any person within the limits of said State of Illinois who has not attended at least two full courses of instruction and graduated in some chartered school of medicine, either in the United States or some foreign country, and is not a person of good moral character, to practice medicine in any of its departments, or perform any surgical operations for reward or compensation, or attempt to practice medicine or prescribe medicine or medicines, or perform any surgical operations for reward or compensation within the State of Illinois.

§ 2. Any person living in the State of Illinois, or any person coming into said State, who shall practice medicine, or attempt to practice medicine, in any of its departments, or perform or attempt to perform any surgical operation upon any person within the limits of said State, in violation of section one of this act shall, upon conviction thereof, be fined not less than fifty dollars ($50) nor more than one hundred dollars ($100) for such offense, and upon conviction for a second violation of this act, shall in addition to the above fine, be imprisoned in the county jail of the county in which such offense shall have been committed, for the term of thirty days; and in no case wherein this act shall have been violated, shall any person so violating receive any compensation for services rendered.

§ 3. Any person who fails or neglects, on or before the first

day of October, 1877, to file in the office of the clerk of the circuit court of the county in which he resides or keeps his office, a certificate or diploma of some chartered college of medicine, that he has attended at least two full courses, and graduated at such college, shall not be permitted in any court of this State to sue for or recover any compensation for his services, advice or attendance as a physician or surgeon; and the failure to file a certificate or diploma as above provided, shall be *prima facie* evidence that he has not attended or graduated at any school of medicine.

§ 4. Any person filing a certificate or diploma as provided in section three (3) of this act, shall attach an affidavit thereto that the same is true and genuine: *Provided*, that any person now practicing medicine or surgery may be examined by the faculty of either of the following named medical colleges: Rush Medical College of Chicago, Chicago Medical College, Chicago, Hahnemann Medical College of Chicago, Bennett Medical College of Chicago, Missouri Medical College of St. Louis, St. Louis Medical College of St. Louis, Homœopathic Medical College of Missouri at St. Louis, American Medical (Eclectic) College of St. Louis, or the Louisville Medical College at Louisville, Kentucky; and, if found by such faculty competent to practice medicine or surgery, said faculty shall grant such persons diplomas without the courses of instruction provided for in section one (1) of this act."

A correspondent to the *N. Y. Med. Record* draws this picture of Prof. Billroth: "A profound pathologist, an accurate anatomist, an operator bold to the verge of rashness, an easy conversational lecturer, an accomplished linguist, a good blackboard draughtsman, are qualities not every day to be found combined in one who, during the most severe and tedious operations, preserves an amiability and unpretentiousness which makes his presence a companionship to the youngest assistant. Nor does one often find the strength and endurance of a blacksmith uniting these qualities on the one hand to a distinguished social reputation as a composer and pianist on the other. A

combination of qualities like this, in one so favorably circumstanced, could hardly fail in achieving the popularity and success which Prof. Billroth has accomplished."

TABLE SHOWING THE AGES AT WHICH MARRIAGES TAKE PLACE IN EACH SEX. Taken from the Reports of the Board of Health of Philadelphia, for fifteen years, 1861–1875.

	Und'r 20	20 to 25	25 to 30	30 to 40	40 to 50	50 to 60	60 to 70	70 to 80	80 to 90	Total.
Whole No. Males.....	417	32951	28792	17515	5294	1783	498	94	9	87353
Whole No. Females....	17604	40467	16624	9504	2546	524	80	3	1	87353
Per cent. Males	00.48	37.72	32.96	20.05	6.06	2.04	0.57	0.11	0.01	100.00
Per cent. Females.....	20.15	46.33	19.03	10.88	2.914	0.60	0.092	0.003	0.001	100.00

It will be noticed by examining the above table of eighty-seven thousand three hundred and fifty three marriages, that "the chances of females being married before the age of twenty years, are as *one to five* of all the probabilities that they will ever marry. At the age of twenty years about *one-fifth* of all their chances are gone. At twenty-five, about *two-thirds*, and at thirty, nearly *six-sevenths* of all their probabilities are lost."

Man's chances are scarcely lessened at the age of twenty; at twenty-five, about *three-fifths* of their chances remain; at thirty, about *seven-tenths* of their chances are gone.

The number of births in Philadelphia, for the same period, amounted to two hundred and fifty-eight thousand six hundred and twenty-one, of which one hundred and thirty-five thousand eight hundred and four were males, one hundred and twenty-two thousand eight hundred and seventeen females. There were eleven thousand eight hundred and thirty-six still births, or one to every 21.8 births. One woman out of every 104.1 in labor gave birth to more than one child. Thirty-two women during the period mentioned, gave birth to triplets.

HARVEY DEMONSTRATING THE CIRCULATION OF THE BLOOD.—The great scarcity of the original engraving of Harvey de-

monstrating the circulation of the blood to Charles the First of England, and published in 1851 by Lloyd Brothers, of London, has induced Mr. H. Wood, Jr., of 826 Broadway, N. Y., to issue a photograph of the same. It is 7 by 9 inches in size, and is admirably well executed. By comparing it with the original engraving, it can be readily seen that in sharpness of detail it is everything which could be desired. As the London engraving is now out of print, and therefore very difficult to obtain, this excellent photographic copy is likely to become a very popular picture for the office.

Bust of Desault.—On the 15th of October last there was a grand celebration in the city of Lure, in France, on the occasion of the unveiling of the bust of the illustrious surgeon Desault, the bust being the work of the artist Iselin.

Desault's name requires no comment for the medical profession of America. He was the grand teacher of such great men as Bichât, Dupuytren, Larrey and Chopart, the man who laid broad and deep the foundation of the science of surgery as practiced in the nineteenth century; the son of a peasant, and yet one whose genius placed him in that proud position which is well described in the eulogy pronounced by the immortal Bichât, his pupil.

Ascarides *vs.* Asteroids.—A married lady consulted her physician in regard to a difficulty of the pelvic viscera, having been, during a protracted maidenhood, engaged in the exacting occupation of a teacher in the common schools of this State, which demands, as one of the requirements for a license, a knowledge of anatomy and physiology. She was at no loss to describe the anatomical parts severally affected in good language; however, in an unguarded moment she wandered beyond her domain, and, while referring to a former disease of the rectum, in which *ascarides* played an important part, she declared that since she had got rid of those little *asteroids* she had not had the train of symptoms she had just enumerated.

A new journal is announced from Detroit, the *Detroit Medical Journal*, a monthly. It is made by the consolidation of the *Detroit Review of Medicine and Pharmacy* and *The Peninsular Journal of Medicine.* We are glad to see our friends unite forces upon one Journal; we know it will be a strong one. We are also glad the new periodical is to be issued under the auspices of the Detroit Medical and Library Association. We think we see here the promise of a great medical library for Detroit.

The American Medical Weekly, of Louisville, has begun the new year as a *bi-weekly.* For the future, Editor Gaillard promises not to quarrel with his neighbors over the way. On the other hand, the *Louisville Medical News* says this promise is due to the fact of its continued drubbing of the *Weekly* and the double-headed medical college, of which it says the *Weekly* is the organ. If our friends, the medical editors of Louisville, can be believed, somebody has been very naughty down there.

The fifty-first Annual Report of the Massachusetts Charitable Eye and Ear Infirmary shows that during the year ending Sept. 30, 1876, 8,022 patients were treated in the dispensary, and 431 as house patients, making a total number of 8,453 patients. The out patients are classified as eye patients (5,754) and ear patients (2,268), but no such division is made with the house patients. Still the statistics of the out patients show again the decided preponderance of the external diseases of the eye, the diseases of the lids, conjunctiva, cornea, iris and lachrymal apparatus, numbering 4,170, or 72 per cent. of the total of 5,754. The number of operations performed on the eye is 309, exclusive of the removal of foreign bodies from the cornea and conjunctiva.

There are are twelve homœopathic medical journals published in the United States.

Editorial.

The Chicago Medical Press Association has concluded henceforth to take the publication of the JOURNAL AND EXAMINER in its own charge. To this end the editorial corps has been enlarged by the addition of an assistant editor, in order to enable the editors to conduct the publishing department in addition to the discharge of their former duties.

Dr. E. F. Ingals was elected to the position of assistant editor, and will have charge of the business affairs of the JOURNAL AND EXAMINER.

The publishing and editorial office now is located at 188 SOUTH CLARK ST. All letters or communications of a business character, relating to the publication, advertisements, subscriptions, etc., should be sent to the assistant editor, while all articles and communications intended for publication, also all books and pamphlets for review, should be addressed to the editor.

It is hardly necessary to add that every effort will be made to render the JOURNAL AND EXAMINER worthy of the patronage and commendation of the profession.

We earnestly appeal to every member of the profession to come to our aid with original contributions, and to use what influence he can exert to extend the circulation of our periodical.

We may say to our friends and patrons that our prospects are such as to justify us in promising improvement in every respect. Our pecuniary basis is substantial; we are surrounded by liberal, intelligent and energetic *confrères*, who are devoted to the success of our periodical; we have a large foreign and domestic exchange list; in fact, everything, so far as we can judge, gives the assurance of continued prosperity.

The confusion in our affairs caused by the misfortune of our late publishers, has undoubtedly prevented many who would otherwise have become subscribers from remitting for the subscription. But now, since perfect order has been restored by the complete re-organization of the publishing department, we hope that our friends will no longer hesitate to forward their subscriptions for the JOURNAL AND EXAMINER.

Summary of Progress in the Medical Sciences.

1. *The Curved Line of Pleuritic Effusion.* ELLIS. (*Boston Med. and Surg Jour.*, Dec. 14, 1876.)

Five cases of effusion into the pleural cavity, each having the curved lines which limited the dullness superiorly, are reported by Dr. Ellis.

The Dr. very ingeniously elucidates, by diagrams, the extent of effusion following the curved lines. He also reports a case where the flatness extended to the right nipple and around the chest, varying with a change of position. This case is the first that attracted the attention of the author to the peculiar form of dullness in pleurisy. He claims to have established the fact that the dullness in pleuritic effusion is most obvious in the sub-axillary region.

Nov. 10, 1873. A lad of nineteen had an attack of pleurisy. There was dullness over the whole right side. Nov. 25th. Absorption became manifest through a change in the line of dullness. The line followed a curve, beginning at the junction of the sternum with the costal cartilage of the fifth rib of the right side, extending obliquely upward to and crossing the third inter-costal space, thence obliquely downward and inward to the fifth rib of right side posteriorly, thence dropping almost parallel with the vertebral column until it arrived opposite the eighth dorsal vertebra, where it terminated at almost right angles with the column. Dec. 28th. The curved line of dullness in part changed, commencing anteriorly as before, passing almost horizontally to the sixth inter-costal space, crossing it, then following parallel with the same line of curvature as that described above, to the ninth dorsal vertebra.

An Englishman, on Oct. 3, 1873, was attacked with pleurisy. The right side of chest was flat, except the top of the shoulder and clavicular region. The heart was pushed to the left. The curved line of dullness, beginning at the second rib posteriorly, passing upward and outward and crossing the first rib of the right side, thence taking a transverse direction across the chest until it gained the junction of the first costal cartilage with the sternum, taking thence an oblique course downward and outward, it passed about two inches to the outside of the nipple to the fifth rib of left side below, where it curved upon itself, becoming lost at the articulation of the costal cartilage with the sixth rib. Normal respiration was heard above and slightly below the line of dullness, and over the back soft bronchial respiration. Nov. 2d. The line of dullness was found to extend from the eighth dorsal vertebra upward and outward in shape of the italic letter *f*, crossing the fourth rib of right side to the third rib of left side, thence curving parallel with the one above described, though just inside of the left nipple, terminating at the union of the fifth rib of left side with the sternum. Nov. 3d. The dullness had not changed; but the râles, sibil-

ant and sonorous, had disappeared, and the mucous râles were not so abundant. Normal respiration was detected, following the line somewhat as indicated, and about two inches outward, increasing toward the upper part. The other cases as reported were similar, each showing the curved lines of dullness.

Dr. Damoisean, in 1853, observed the lines of dullness in pleuritic patients, and substantiated his discovery by means of the trocar. In the patients who were recovering from effusion he noticed these facts, namely: "While the flatness persisted in the sub-axillary region on a level with and beneath the lower angle of the scapula, there was resonance in the lower part of the vertebral groove. *Secondly*, the flatness always disappeared last from the lowest sub-axillary region." He also stated that when the dulness reached a point about two and three-fourths inches above the nipple, the line was nearly horizonal; beneath this level it was a parabolic curve, the curvature increasing until it became elliptical in the lower and lateral parts of the hypochondrium.

The author urges close attention to the lowest sub-axillary region, believing with D. that the presence of an ounce of fluid can be detected there. Just how the curved line is formed Dr. E. fails to tell us; of the value of it he thinks there can be no doubt. W. F. L.

2. *A Case of Intermittent Pneumonia.* HILDEBRANDT. (*Deutsche Med. Wochenschr.*, 1876, No. 49.)

On Nov. 13th, a soldier was admitted to the hospital complaining of pain in the right side, chills and cough. He coughed considerably, and threw up the characteristic pneumonic sputa; crepitant râles over the lower posterior portion of the right lung; no dullness on percussion. Temp. 39.5° C. Nov. 14th A. M. Respiration easy and free of pain and cough; very few râles in the right side; temp. 37.5°; slight enlargment of the spleen. At 3 P. M. a violent chill followed by headache; cough with pneumonic sputa; crepitant râles and a temperature of 45.5°. Nov. 15 A. M. Temp. 37.5°; patient felt quite well, though he coughed some and the crepitant râles had not entirely disappeared. Instead of sodæ nitras he now took thirty grains of quinine. The fever did not return; the evening temperature was 37.5°. Nov. 16 A. M. Temp. 36.5°; sputa muco-purulent and scanty. Nov. 19. Patient was discharged and has entered on duty.

3. *Maternal Impressions Affecting the Fœtus.* (*Philadelphia Med. Times* Dec., 1876.)

In the cases of naevi materni, reported by Dr. E. Seguin, occurs one in his own family. The wife of a physician longed for a dish of ham, her husband thinking this a good opportunity to try the reality of the doctrine of maternal impressions, refused the covetous dish. A girl was born with a mark not unlike the appearance of cooked ham on the back of the head and on the legs. He attended a lady who, during her pregnancy, was so exercised for the safety of her husband engaged in war that she gave birth to an idiotic child; all the other children (6) were above mediocrity.

Another lady—very refined—drank daily a quart of brandy while carrying her fourth child; experienced no uncomfortable symptoms from it; gave birth to an idiotic boy.

A lady came out over-heated from a ball room; her baby three months old taking the breast, was seized with spasms two hours after, and since, is a confirmed idiot and epileptic. In a moment of great anxiety a lady jumped into a carriage with her child, a girl of fifteen months, whose intellect so far was very good. During a journey of twenty miles the child took the breast once, vomiting before arriving at the destination; acute fever followed. The child became a cripple and an idiot. A tramp called at the residence of a farmer for a pot of milk and bread; the wife seeing that he had no left hand re-entered the room crying, "My child will be born with but one hand," and in two months later it so happened. A gentleman lying sick in a country house at night, was attended by his wife, they being alone in the house. She saw somebody wrapped in a sheet trying to effect an entrance; being unprotected she cried out, piled furniture against the door and succeeded in repulsing the intruder. She gave birth, soon after, to a healthy male child, who, at the hour at which the struggle occurred, would scream out every night as if in distress, at other times was good natured. This habit disappeared when taken from the breast. W. F. L.

4. *Cerebral Exhaustion.* SCHWEIG. (*The Med. Record*, 1876, No. 313.)

The chief predisposing cause of cerebral exhaustion, says the author, is the lack of stamina or staying power, superinduced by too long continued thought or hard study. The avocation of a man is an important factor in the genesis of the disease; physicians, lawyers and inventors furnish the largest proportion of this class of patients. The middle aged, young and old are somewhat exempt. Dr. S. does not believe that the female is less predisposed than the male, but the avocations that distinguish the sexes accounts for the small quota of the disease furnished by women. "Abuse of the mental faculties" is a direct cause of cerebral neurasthenia; such as depressing emotions resulting from family or business troubles, sickness, etc. These causes combined render the brain less competent to resist taxations that, under ordinary circumstances, it might sustain. Of the pathology he thinks little can be said, but none appears more rational than the theory of nutritial changes. Of the symptoms the most prominent is a disinclination for mental labor. If this feeling is only temporary, and an attempt made to perform brain work, a brief application will exhaust the powers of thought and bring on confusion of ideas. In many cases the memory is weakened, in others there is no perceptible change.

Insomnia is present from the beginning. Organs over which the pneumogastric nerve presides are more disturbed than all the others. Disturbances of the heart's action, stomach, liver, intestinal canal, with vasomotor irregularity are common. Cerebral nerves, other than the one described, may in turn become involved; in proof of which we have neuralgia of varied form and intensity.

A mistake in diagnosis is not uncommon; the symptoms due to functional disturbance of the pneumogastric may be looked upon as primary conditions, and result in the loss of opportunity for rapid and decisive treatment. Prognosis will depend not only on the severity of the case, but upon the hereditary disposition, and cheifly, perhaps, upon the ability to follow strictly the treatment. The paramount condition for treatment "is rest for the exhausted brain;" not a temporary rest, but absolute abstinence from all mental labor throughout the entire treatment.

Dr. S.'s method of treatment consists in general galvanization of the brain. To do this he makes use of the galvanic bath. In doing so every organ of the body comes under the electric influence; dyspeptic symptoms, torpor of the liver, cardiac derangement, etc., as a rule are ameliorated. In conjunction with this line of treatment he makes use of the faradic current as a prophylactic, and by evoking capillary stasis a powerful auxilary is furnished the galvanic current, and better results obtained. A good nourishing diet, with either phosphorus or cod-liver oil is necessary. As regards the administration of the baths, the author admonishes against the use of strong currents at the beginning; the faradic may be used with the bath currents from the first, although the faradic current is only necessary where there is a sub-paralytic condition. The galvanic should take precedence of the faradic current and not be employed more than ten minutes. The bath should not be continued long enough to fatigue the patient. W. F. L.

5. *Tetanus Successfully Treated by Calabar Bean.* GRANT. (*The Med. Record*, Dec., 1876.)

Many of the failures attending the administration of Calabar bean for tetanus have been due either to a poor preparation of the drug or insufficient doses. A German having tetanic spasms was first given of the tincture 10 drops every hour; on the subsequent day 20 drops, increasing to 30 every hour. Patient now improving, it was reduced to 30 drops three times daily; when suddenly the spasms returning, the following was given:

℞ Extract. Physostig..... grs. xxxij
Alcohol. dil..... ℥j

M. S. 45 drops every two hours.

The spasms soon subsiding, the patient was given the dose three times daily. The afternoon of the next day the attacks again returned; the dose was now increased to 60 drops every hour for two days; spasms having now disappeared patient was put on 30 drops three times a day. From this date there was no return of spasms. The only physiological action of the agent was contraction of the pupils and slight delirium at times.

W. F. L.

6. *Case of Peliosis Rheumatica.* TAYLOR. (*The Am. Pract.* Dec., 1876.)

A married woman, aged 48, for several years had poor health; was, in

January last, taken with acute pain in the middle of the spine, extending obliquely around the body, and terminating in the left groin. An eruption of herpes zoster, in irregular patches and in its different stages, followed the track of pain, terminating in about two weeks. At the end of the fourth week the pain shifted its location to the thigh and leg, following the great ischiatic and posterior tibial nerves, settling in the foot.

About the fourth or fifth day the foot and ankle became swollen, pitting on pressure, and being painful to the touch. The next morning the anterior portion of the foot and lower half of leg were covered by dark red spots, more numerous over the ankle joint, and from the size of a shot to that of a silver dime, and not projecting above the surface. They retained this color for two days, then changing from dark to brown, then to yellow fading away without desquamation. The eruption lasted ten days, during which time pain and swelling was less severe. At the end of the fourteenth day she had a second attack, followed, each after a similar interval, by a third and fourth one, and each running nearly the same course, all the difference being that the last attack implicated the whole leg, and continued for months with no cessation. Treatment did no good. Finally, on the approach of autumnal weather, seven months after the first attack, a change for the better occurred which continued until she recovered. A loud systolic murmur was detected, with its greatest intensity at the apex.

The author inquires why the periodicity that was present did not yield to quinia and arsenic if malaria was the cause; and why the periodicity if the disease was due to detached fibrinous masses floating in the small arteries and capillaries, resulting from heart disease, and thus poisoning the blood. W. F. L.

7. *A Case of Intestinal Obstruction of Eighteen Weeks.* BLAKE. (*The Boston Med. and Surg. Jour.*, Nov. 23, 1876.)

A man 46 years of age, strongly developed, weighing 180 pounds, mechanic, of good habits, and health usually fair up to his last sickness in November last; had reverses in business which created a good deal of mental excitement and derangement of digestion. Feb. 29th. Dr. B. was called and found the patient had taken freely of cathartics followed by no fecal evacuations, but by a discharge of glairy mucus mixed with blood, accompanied by tenesmus and pain. Examination revealed no tumor, nor pain, nor tenderness on pressure at any point. During the next week no change in patient's condition; soon afterward followed tympanitis, vomiting and hiccough. Emaciation soon supervened, and before death he was a "living skeleton." June 27th. Bowels moved spontaneously every hour, without power of resistance; the matter evacuated having a tarry look. The quantity the first day was about a gallon; the number of operations from day to day gradually diminished until death. Treatment consisted of injections, calomel pill, followed by castor oil and morphine to relieve pain. Fifth day of illness; bowels had become swollen; enemata of oil of turpentine, castor oil, and a gallon of warm water were administered, giving immediate relief. After four days this treatment failed.

Tenth day, tympanitic distention endangered life, pushing the liver as high as the nipple, the heart pulsations appearing between second and third ribs. Inflation was made without relief. The aspirator was now used; Patain's smallest needle being introduced an inch above the umbilicus, and the flatus pumped off precisely as fluid would be. The tense condition disappeared, the lungs expanded, and the pulse fell from 140 to 96, wonderfully improving the patient's condition. An attempt to move the bowels was now made and failed. A trial at inflation was again made without giving relief. All methods of treatment now being abandoned, nourishing diet per rectum, morphine and the aspirator were alone used; the latter freely without lighting up any inflammation or giving patient any pain. The most wonderful feature of the treatment consisted in the free use of the aspirator. From the second week of sickness up to the time of death it was used daily, and quite frequently three times a day. It afforded so much relief that the patient would often call for it, telling the nurse where to puncture.

Dr. B. does not believe his patient could have survived many hours if the distention had not been relieved by the aspirator. Patient's life depended more on the use of the instrument than on morphine, nourishment and all the other treatment combined. W. F. L.

II. Surgery.

1. *Inflammatory and Necrotic Processes in Bone.* Busch. (*Langenbeck's Arch. XX.; N. Y. Med. Record.*)

The various stages through which bone passes from inflammation to total necrosis have been carefully studied by Professor Busch, of Berlin, in a series of experiments on animals; and his results throw some light upon these rather obscure processes. His plan was to bore into the medullary canal of a long bone, near the articular extremity, then pass a wire of platinum or iron along the cavity, bringing it out again through a second opening near the opposite extremity. The wire was then heated to whiteness by the galvano-caustic battery. In a large number of cases various degrees of damage were done to the bone; in some, however, where the platinum wire had been allowed to remain in the bone, no apparent reaction was produced, while the holes through which it had entered were closed. These results tally with those published by Cruveilhier in 1816. Necrosis, the author believes, does not in such cases depend upon the mere presence of a foreign body, but upon some of the physical qualities that are associated with it. The expansion of laminaria, when introduced into the medullary cavity, determines the necrosis; and so with platinum or iron, the chemical or other qualities associated with it are the real exciting agents. Four grades of inflammation, corresponding to the intensity of the cause, were recognized: 1, active inflammation (ostitis); 2, death of a greater or less extensive lamella from the inner surface of the compact substance (necrosis interna seu centralis); 3, death of the entire thickness

of the compact cortex (penetrating necrosis), or of the whole circumference of the bone (total necrosis); finally, 4, death of the entire bone, with perhaps some of the enveloping soft parts.

The first-named results were observed in three dogs, the examinations having been made on the 53d, 67th, and 73d days after the injury. The author also adds, as an interesting fact, that where necrosis was observed in one of the principal bones of the limb, it was not uncommon to find that the adjacent bone was affected with ostitis. The various stages of the inflammatory process in a bone were found to follow each other in the following order: Swelling and thickening of the periosteum; deposit of bone substance on the outer surface of the cortex; formation of bone in the medullary cavity; rarefaction of the tissue of the old compact tissue (enlargement of the Haversian canals, and with or without implications of the lacunæ), so that it looked precisely like the new bony matter; thickening of the outermost layers of the periosteal deposits, by which a certain sort of new bony cortex was formed; finally, there was an apparent compression of the inner bony structures by connective tissue, so that in this way there was a new central cavity partly filled with fibrous tissue.

In the cases in which the second grade of the process was observed, it was about the holes that had been bored. In the remainder of the bone there was ostitis. The sequestrum was not fully loose, the examination being made at times ranging from the 30th to the 57th day. The sequestrum was either tubular, or at any rate curved. There was in this case also a deposit of new bone beneath the periosteum, the direction of the new bony fibers being vertical to the surface of the bone. The thickness of the deposit was greatest over the center of the bone. The separation of the sequestrum was caused by the development of granulations in the interior of the old compact substance, while its remaining portion, together with the new deposit, formed the involucrum. In the third grade, where the entire thickness of the bony substance was destroyed, the sequestrum had a smooth surface, like a macerated bone. A point clearly shown in this class of cases was, that, wherever the outer surface of the sequestrum was smooth, there was a corresponding opening in the bony capsule. In the two cases of total necrosis, the involucrum consisted of two parts, the support of the limb being maintained by the fibula. This fact is said to agree with the experiences of Scarpa, Sédillot, and others, that, where the entire thickness of the compact substance takes place, there is no regeneration of bone tissue. It is to be explained by the fact that in these cases the periosteum is separated from the bone, which sets up suppuration, and thus bone formation is prevented. In total necrosis the continuity of the bony involucrum is endangered; in penetrating necrosis a continuous involucrum remains. The early or late removal of the sequestrum appeared to have no influence on the formation of bone. In applying these results to the question of operative surgery in children and adults, the author believes that much the same consequences may be expected. In children, where there is total necrosis of a portion of the bone, if there is bony union, shortening may be expected; but he thinks that after the twenty-fifth year

the cases are very rare in which bony substitution occurs after total necrosis.

Of the fourth class, where death of the entire bone took place, the animals all died at times between the end of the first day and of the first week. There was no reaction in any of them.

2. *Two Cases of Ascites Successfully Treated with Iodine Injections.* NORWOOD. (*The Canada Lancet*, February, 1877.)

Sixty-seven operations of paracentesis abdominis, upon a gentleman sixty-six years of age, during a period of eighteen months, with the removal of from eighteen to twenty-four quarts of fluid at each sitting, were made prior to iodine treatment. About half the usual amount of fluid being removed, as a preparatory step to the operation, two ounces of tinct. iodin. co., diluted with an equal quantity of distilled water, were injected into the cavity of the peritoneum; cannula was plugged, and patient rolled gently over on the bed for about ten minutes, to bring the injected fluid in contact with the whole surface of the sac. The plug remaining a half hour, was removed, and the balance of fluid (six quarts) drawn off, and a bandage applied. The day following the operation the patient had a chill, with some febrile excitement, and tenderness all over the abdomen. He was kept profoundly under the influence of opium, and had three-grain doses of calomel every four hours. He soon began to convalesce, and in about three weeks from the operation (during which time he received three small tappings) was discharged cured. W. F. L.

3. *Case of Transverse Fracture of the Patella, Treated by a New Method.* GRANT. (*Edinburgh Med. Jour.*, October, 1876.)

After an interval of two days, to let the swelling subside a little, Dr. G. treats transverse fractures of the patella as follows: The leg is placed on an inclined splint, extending from heel to near gluteal fold; the lower fragment firmly fixed in position by a strap of plaster passing around the leg, and a semilunar splint of Hyde's poroplastic material carefully modeled to the thigh just above the margin of the upper fragment, and is held in position by two stout pieces of strapping, the whole being surrounded by a few turns of a convergent spica bandage. The splint is then allowed to "set," and two steel hooks (the size is not mentioned) are fixed firmly into the splint, one on each side of the patella. The hooks are connected with a steel chain about three feet long, and this attached to the ordinary pulley extension apparatus with a weight of nearly four pounds; this brings the upper fragment down, while the lower remains in position. The method is painless and efficient. W. F. L.

4. *Extirpation of a large Lipoma of a Bleeder.* STILLING. (*Deutsche Med Wochenschr.* 51, 1876.)

Mr. Sp., aged fifty-eight years, has had a large lipoma on his back for a great many years. As long as it did not cause him any great inconvenience he would not have anything done for it, especially as he knew in his youth to have bled fearfully after the slightest injury, such as a puncture with a

pin. In 1876, however, the tumor had reached the size of a child's head, and the patient submitted to the extirpation. The operation was performed under the carbolized spray; in fact, Lister's antiseptic method was strictly, faithfully adhered to.

The bleeding was exceedingly severe, and very many arteries, though small, had to be closed by a cat-gut ligature or by torsion. The large wound in the skin being closed by numerous cat-gut sutures, a pressure bandage of salicylated cotton was applied. Half an hour after the patient was dressed blood began oozing out from under the bandage, and continued doing so during a whole night. The next morning, when the dressing was changed, the borders of the wound were united, but underneath the effused blood had accumulated in such a quantity as to form a tumor as large as the original lipoma; the tumor showed decided fluctuation — the blood was not coagulated yet. On the fourth day the wound was completely healed by first union; the hæmorrhagic tumor was solid, and under the same dressing, continued during four weeks, it was entirely re-absorbed. During all this time the patient's pulse never rose above eighty; the temperature was always normal; no fever, nor any secretion of pus.

5. *Excision of the Infraorbital Nerve; Rapid Recovery under the Antiseptic Treatment.* STILLING. (*Deutsche Med. Wochenschr.* 52, 1876.)

Mrs. R., aged 72 years, suffered from facial neuralgia since July, 1876. The first attack set in while she was washing her face; it lasted but one minute. Afterward the attacks were occasioned also by speaking, eating and deglutition. The neuralgia was the most violent in the region of the infraorbital nerve, though it extended also over the ramifications of the dental, zygomatic, inferior maxillary nerves. No cause could be ascertained; no relief from general treatment

October 21, the entire piece of the infraorbital nerve contained in the infraorbital canal was removed by the usual *modus operandi*. The operation was performed under the carbolized spray, and the wound was dressed scrupulously after Lister. The first dressing was not changed till the sixth day; the wounds had healed by first union; not one single drop of pus had been secreted.

On the eleventh day the patient could be discharged as cured. The neuralgic pains had not returned in the zygomatic and the other branches after the excision of the infraorbital nerve.

III. OBSTETRICS AND GYNÆCOLOGY.

1. *Injections of Hot Water for Arresting Uterine Hæmorrhage.* WINDELBAND. (*Deutsche Med. Wochenschr.* 24, 1876; *Centralbl. f. Chir.*)

Two years ago W. read in some medical journal of two cases of abortion in which Dr. Mann, an American physician, had made a successful use of injections of hot water into the vagina and uterus to stop the profuse hæmorrhage. From an extensive experience in a great variety of grave cases

of uterine hæmorrhage, the writer has gained the firm conviction that the injections of hot water are an invaluable remedy, far preferable to cold water and the astringents in all cases where prompt assistance is urgently needed.

The injections were always made in the recumbent posture, with a simple fountain syringe. The temperature of the water was 38° (centigrade) in the beginning, to be gradually elevated to 41° C. if necessary. These hot injections never cause any unpleasant or injurious reaction; they are, on the contrary, very grateful to the patient. Their hæmostatic effect seems to be due to their stimulating the contractions of the muscular fibres of the uterus.

2. *Aspirating Movement of the Cervix Uteri.* GALICIER. (*La France Médic.*, January 27, No. 8.)

The author established the following phenomena during a speculum examination:

1. The cervix opened by the separation of the two labia, so as to present a funnel-shaped cavity.

2. The labia became more or less approximated or separated according as the speculum was withdrawn or made to penetrate more deeply. No disease of the uterus existed.

The woman was young, and had had one child. She was then in the first month of a second pregnancy.

3. *Imperforate Hymen; Retention of Menses; Death.* CALDERIN. (*Anal. de Gynecol. Espan.*, May 5, 1876.)

On the 15th of August, a girl, fifteen years old, was seized with acute hypogastric pain. By palpation an abdominal tumor was discovered in that region, and vesical catheterism was practiced to facilitate the diagnosis. The escape of a large quantity of urine procured manifest relief. This lasted until January 19th, when the same symptoms were presented, with greater intensity. The same treatment was then adopted, without effect, when a consultation was held, and it was discovered that a soft fluctuating tumor filled the pelvic cavity and extended to the umbilicus, the hymen being imperforate. Menstrual retention was diagnosticated, and puncture proposed.

The operation was performed on the 23d with a trocar, with the effect of giving exit to a chamber full of blood. All went well till the 28th, when there was right hypochondriac pain, fever with a pallid countenance, and the escape of a large quantity of fetid pus from the vagina. On the following days the pain extended to all parts of the abdomen. Cadaveric aspect, bilious vomiting, precordial anxiety, small pulse, hiccough, and retention of urine. Catheterism, morphia, belladonna and cataplasms gave small relief. This general condition — the patient being sometimes better and sometimes worse — lasted until the 6th of February, the patient dying on the 7th.

Considering the age of the patient, the volume of the tumor, and the

antecedents of the family (the menses appeared at the same age with her sisters), the physicians concluded that the retention had dated one year before, and that the tumor was formed exclusively by vaginal dilatation. An autopsy was not permitted. The hepatic symptoms could be referred (according to Hervieux) only to peritonitis or phlebitis. Now in this case there was no meteorism — a most constant symptom in peritonitis — and the death therefore must have resulted from phlebitis — the result of extensive prolonged congestion of the vessels of the uterus and vagina. To this is to be added the sudden admission of air to the vagina, the general depressed condition of the system, and the inflammatory manifestations which preceded the very inoffensive operation.

Bernutz (*Monographie sur les rétentions menstruelles*) corroborates this opinion, and proposes in such cases to withdraw the blood at several sittings with a capillary trocar, and to incise the hymen only when previous evacuations have permitted the organs distended by the retained blood to return to their primitive state.

4. *Treatment of Premature Rupture of the Bag of Waters.* Di Pineiro. (*Anal. de la Soc. gyn. Espan.*, May, 1876.)

When this accident occurs at the fundus of the uterus, it is relatively unimportant; but when it is produced at the neck, death of the fœtus may ensue, or serious maternal trouble. Different measures have been proposed by various authors for the management of dry labors (bleeding, general and local baths, unguents, belladonna to the cervix, etc.), but all are of doubtful utility. The author proposes the following:

In such cases what actually occurs? The uterus, accustomed to contract upon a smooth and uniformly equal surface, enfolds a body of irregular surface, such as the fœtus; the contractions are no longer uniform, and the progress of dilatation of the os is prolonged. The different points of the fœtus support unequal degrees of pressure, whence a loss of equilibrium results in the circulation, and the parts not pressed upon become congested, e. g., the encephalon. On the other hand, the bag of waters operates as a wedge in the process of dilatation; but when it is prematurely emptied there is a new cause for retardation of the expansion of the os, and, besides, the head is unduly compressed, so that cephalhæmatoma may occur. For the mother, then, the labor is prolonged, and the danger proportionately increased; for the fœtus, there is an added probability of cephalhæmatoma, congestion and death.

The author, taking nature for his guide, proposes to employ hydrostatic dilatation. By this agent the os is enlarged without fear of contusion or tearing, and the pressure is not only made uniform, but can also be regulated. The presenting part of the fœtus cannot possibly be compressed. The uterine orifice is closed with an obturating dilator, so that the issue of such amniotic fluid as has not been evacuated at the instant of rupture is prevented, and thus the danger of congestion is set aside. In short, the prospect is much more favorable for the termination of the labor, in a manner satisfactory to both the mother and the child.

It is clear that one dilator is not sufficient; in fact, that various sizes will be requisite. The author has devised dilators constructed of caoutchouc, in the form of a figure eight, with concave extremities, in order to be adapted to the presenting part of the fœtus. Their introduction is readily effected. It is only necessary to take a gum elastic sound, insinuate it into a little pocket purposely made in the dilator, roll the latter about the sound, and insert it into the uterine orifice, making use of the right index finger as a guide. This done, the sound is retracted, and the dilator is held *in situ* with the finger until its gradual distension by the injection of water. Once in place, there is no fear of its slipping, as it is held by its projecting extremities. No. 1 is successively replaced by Nos. 2 and 3, until dilatation is complete, and the delivery then is permitted to progress in the natural way.

In certain presentations, of course, the introduction of the dilator is more difficult than in others; but this difficulty is proportionately less according as the rupture is the more recent.

In tetanic contractions, inhalations of the nitrite of amyl may be employed with benefit.

IV. Therapeutics.

1. *A Remedy for Whooping Cough.* Lasinski. (*Deutsche Med. Wochenschr.*, 1877, No. 2.)

In twenty-five cases of whooping cough the author has been so exceedingly successful with his topical medication that he has no hesitation in recommending it very warmly to the profession. His remedy is the following powder: ℞. Quin. Muriat., 1.0; Ac. Salicyl., 2.0; Sacch. Alb., Sod. Bicarbon. *aa*, 0.5 (1 gramme=15 grains. See Journal and Examiner, February, 1877, p. 172.) This powder is applied to the affected larynx by means of a laryngeal insufflator; the insufflations are made twice daily, and the above quantity of the remedy will last ten days. Consequently, at each application about 0.05 quinine and 0.1 salicylic acid are used. The small dose of the powder being put in the open end of the insufflator, the patient is told to put out his tongue and to take a deep inspiration. At this very moment the tube of the insufflator is quickly put into the mouth far enough to get its curved end behind the epiglottis, and the powder is blown into the larynx. Although the children naturally struggled, they could be managed by one person who had them on his lap and held their hands. Small children of course would not inspire just at the demand of the surgeon, who then had to wait and watch for the desired moment to insufflate the powder. But, for all this difficulty, the whole manipulation never occupied more than three minutes. When the powder actually was blown into the larynx it caused an attack of suffocation, so that this phenomenon may be taken for a proof of the successful insufflation.

The beneficial effect of the treatment was noticed within one week by a decrease of the attacks in violence and frequency. The time required for

a complete cure varied from one to four weeks; in general older children and adults were cured more quickly than young children. And the writer thinks that the time necessary for a cure could perhaps be essentially shortened by more frequent insufflations of smaller doses and by improving upon the *modus operandi*.

2. *Treatment of Diphtheria.* GIBBONS. (*Pacific Med. and Surg. Jour.*, January, 1877.)

The most valuable agent in the materia medica for the treatment of diphtheria is tinct. ferri chloridi. The usual dose of five or ten drops every two hours is too small to yield good results; but it should be given so that an adult patient in twenty-four hours will get from ʒ ss. to ʒ i. Smaller doses do not exert a specific action on the disease. If the stomach gives way, and the medicine is rejected, the tartrate of potassa might be substituted. Usually twenty-four hours of the iron treatment will suffice. W. F. L.

3. *On the Principles of Antipyretic Action.* MAY. (*New York Med. Jour.*, February, 1877.)

Of the physiological action of cold, Dr. M. says: "When the animal body is exposed to cold, a sudden loss of heat by radiation takes place, and the process of chemical change is retarded; and if the cold is sufficiently intense, a complete cessation of these chemical changes follows"—showing the therapeutic indications of cold in the treatment of fevers; that to lower the temperature, and check the excessive chemical changes, cold must be applied. Of quinine, he thinks that its antipyretic properties are beyond dispute. The fact that it has power to preserve milk, flesh, wine, etc.; of arresting alcoholic fermentation, and preventing putrefaction; that it destroys all kinds of infusorial life, are sufficient proof of its antipyretic power.

Dr. M. believes that sunstroke can be successfully treated by subcutaneous injections of quinine, in proof of which he quotes from cases reported by Surgeon-Major Hall, who had treated quite a number successfully, by dissolving five grains of quinine in five minims of dilute sulphuric acid and fifty minims of water, and injecting in different places about the shoulders.

The best antipyretic results are obtained by administering large doses of the drug when the temperature is high, and small ones when the heat is less.

Alcohol is another remedy which exerts its antipyretic action by supplying force to the body; such force being needed to build up the system when under the influence of fever poison. The author gives a number of experimental cases on dogs, by Dr. Anstie, showing that "the average human adult is capable of decomposing 1½ ounces of pure alcohol"; however, the amount oxidized in the body depends entirely upon the condition of the system at the time taken. Care must be exercised not to give a larger quantity than the system is capable of oxidizing, else its narcotic effects, such as flushing of the face, giddiness, etc., may do harm. W.F.L.

4. *On a Mode of Generating Sulphurous Acid for use as a Disinfectant.* KEATES. (*Lancet.*)

Bisulphide of carbon is a compound of one atom of carbon with two atoms of sulphur (C. S_2); it is a dense, mobile liquid, heavier than water, and intensely inflammable, burning in the air like spirit of wine. During combustion the constituents of the bisulphide combine with the oxygen of the air, producing sulphurous and carbonic acid gasses; but as one hundred parts contain by weight as much as eighty-four parts of sulphur, which will give, in burning, one hundred and sixty-eight parts of sulphurous acid, it will be seen that the volume of this gas from a given quantity of bisulphide greatly exceeds that of the carbonic acid, and is comparatively very large.

The bisulphide of carbon can be burned in a common spirit lamp, and by a modification of the method of burning, the amount of sulphurous acid produced in a given time can be regulated to any given extent.

It is a property of the bisulphide of carbon to dissolve in fat, oils and hydrocarbon liquids, such as petroleum; so by mixing it with any one of these liquids, and burning the mixture in a properly constructed oil or petroleum lamp, sulphurous acid will be generated with the other usual products of the combustion of such materials. As the sulphurous gas is generated *pari passu* during the combustion of the bisulphide, it diffuses itself in the air, which in a short time will become completely impregnated with it.

Sulphurous acid generated in this way can be applied with facility to the disinfection of any place or object. It must be observed that the bisulphide of carbon is extremely volatile, having its boiling point as low as 102° F. It is therefore necessary that the lamp in which it is burned should be furnished with a well fitting screw cap, to prevent the liquid from evaporating, and at the same time to keep its peculiar odor from escaping. J. S. K.

5. *Anhidrotics.* FOTHERGILL. (*Practitioner*, December, 1876.)

Anhidrotics are agents which check profuse sweating. They are administered internally or applied externally. Of the latter, mineral or vegetable acids are the most valuable. Of the remedies administered internally, the chief are, dilute phosphoric acid; other acids; astringents, mineral and vegetable; oxides, as of silver and zinc; tonics, as quinine; and some members of the solanaceæ, as belladonna and hyoscyamus.

The most potent of all anhidrotics, in the experience of Dr. F., is belladonna. For the arrest of the exhausting night perspirations of phthisis, belladonna is as potent as digitalis is in giving tone to a feeble heart.

To produce these effects it is necessary to use from the 1-75 to the 1-25 gr. atropia by the mouth, the latter dose rarely failing. After the effect is produced, much smaller doses will maintain it. If the smaller dose is commenced with at first, and by gradual increase the larger dose at last reached, Dr. F. has never seen any alarming symptoms of poisoning, since belladonna produces marked toxic effects before a fatal dose is reached.

J. S. K.

6. *The Practical Uses of Bromide of Camphor.* (*Lancet; Practitioner*, December, 1876.)

In regard to the physiological action of bromide of camphor, it may be stated that it diminishes the number of the beats of the heart, causes contraction of the smaller blood vessels, lowers the temperature, and subsequently induces a more or less marked tendency to sleep. It has been employed by Deneffi, O'Hara and Berger in delirium tremens. The first two advocate its employment as beneficial, while Berger makes some reservations. In insomnia, and especially in that form of sleeplessness which is connected with heart lesions or cerebral hyperæmia, Bournville, Lawson and Pathault declare they have observed encouraging results. Riemer and Hammond state that bromide of camphor proved of use in spasms or convulsions brought on by teething. A great many observers have employed it in epilepsy; and whilst some of them think they have seen the epileptic fits become more and more rare under the influence of the drug, others have only noted a remarkable diminution of vertigo (or *petit mal*) following its use. Chorea and hysteria are, however, the nervous disorders in which bromide of camphor has been most extensively used, and with the best effects.

Turning to another class of disease—namely, affections of the urino-genital organs—it appears that in a case of anal and vesical tenesmus, dependent on peri-uterine phlegmon, Dr. Siredey, of Laribolsière Hospital, has recorded the successful employment of the bromide. In cystitis of the neck of the bladder, again, Dr. Lannelongne states that the beneficial action of the bromide is particularly observable when the cystitis is painful and the pain is not dependent on any organic lesion (neuralgic cystitis); 2, in cystitis of the neck due to congestion; and, 3, when catarrh is mild and when acute prostatitis is added to inflammation of the neck of the bladder.

In a case of symptomatic priapism recorded by Dr. Longuet, bromide of camphor was employed with success; and Dr. Petrovitz has recorded some interesting cases of gonorrhœa in which painful erections were stopped by the use of the capsules of bromide of camphor. J. S. K.

7. *A Ready Solvent for Salicylic Acid.* DUFFEY. (*Br. Med. Journal.*)

Dr. D. states that a permanently clear solution of salicylic acid can be conveniently obtained by dissolving it in liquor ammoniæ acetatis. This solution is more palatable than any hitherto advised, and is less apt to cause the burning sensation in the throat and gastric irritation which often attend the administration of salicylic acid in large doses.

Formula:

℞ Acidi Salicylici ..... gr. cxx.
Liq. Ammon. Acetatis ..... ℥ ij.
Aquæ ..... ℥ vj.
M. Ft. mistura.

One-eighth part contains fifteen grs. J. S. K.

ANNOUNCEMENTS FOR THE MONTH.

MONDAYS. SOCIETIES.

Mondays, March 5 and 19.—Chicago Medical Society. Regular meetings.

Mondays, March 12 and 26.—Chicago Soc. of Phys. and Surgeons. Regular meetings.

CLINICS. *Every Monday.*

At Eye and Ear Infirmary, 2 P. M.—Prof. Holmes.

At Central Dispensary (Wood and Harrison sts.)—2 P.M. *Gynecological*, Dr. Adolphus; 3 P.M. *Diseases of Children*, Dr. R. S. Hall.

At Mercy Hospital—2 P. M., *Surgical*, Prof. Andrews.

At Rush College—2¼ P. M., *Medical*, Dr. Bridge.

At Chicago College, 2 P. M *Gynecological*—Prof. Merriman.

LECTURES. *Every Monday.*

At Rush Medical College (Harrison and Wood sts.)—9 to 1 o'clock, Drs. Wadsworth, Jackson, Danforth and Knox. At Chicago College—8½ to 12½, Profs. Jewell, Hyde, Hatfield and Bond; 3 to 6, Profs. Nelson and Davis, Quine and Andrews, and Roler.

TUESDAYS. SOCIETIES.

Tuesday, March 13.—Academy of Science. Regular meeting at 8 P.,M. (263 Wabashav.)

CLINICS. *Every Tuesday.*

At Eye and Ear Infirmary—2 P. M., Prof. Jones.

At County Hospital—2 P. M., *Medical*, Prof. Bevan. 3 P. M., *Surgical*, Prof. Bogue.

At Mercy Hospital—2 P. M., *Medical*, Prof. Hollister.

At Chicago College—2 P. M,, *Gynecological*, Prof. Roler.

LECTURES. *Every Tuesday.*

At Rush College—9 to 1, Drs. Owens, Bridge, Strong and Case. At Chicago College—8½ to 12½, Profs. Jewell, Quine, Merriman and Bond; 3 to 6, Profs. Johnson and Nelson, Andrews and Hatfield, and Byford.

WEDNESDAYS. CLINICS. *Every Wednesday.*

At County Hospital—2 P. M., *Ophthalmological*, Dr. Montgomery; 3 P. M., *Gynecological*, Prof. Fitch.

At Chicago College—3 P. M., *Gynecological*, Prof. Nelson.

At Mercy Hospital—2 P. M., *Ophthalmological*, Prof. Jones.

At Central Dispensary—2 P. M., *Surgery*, Dr. Loomis; 3, *Diseases of Chest*, Dr. Ingals; 3, *Gynecological*, Prof. Etheridge.

LECTURES. *Every Wednesday.*

At Rush College—9 to 1, Drs. Wadsworth, Ingals and Sawyer. At Chicago College—8½ to 12½, Profs. Hyde, Isham, Hatfield and Bond; 3 to 6, Profs. Davis and Curtis, Quine and Jones, and Roler.

THURSDAYS. CLINICS. *Every Thursday.*

At Eye and Ear Infirmary—2 P. M., Prof. Hotz.

At Mercy Hospital—2 P. M., *Medical*, Prof. Davis. [*tem*, Prof. Lyman.

At Rush College—2 P. M., *Medical*, Prof. Ross; 3 P. M., *Diseases of the Nervous Sys-*

At Chicago College—2 P. M., *Gynecological*, Prof. Merriman.

At Central Dispensary—2 P.M., *Surgical*, Dr. Graham.

LECTURES. *Every Thursday.*

At Rush College—9 to 1, Drs. Hayes, Bridge, Strong and Case. At Chicago College—8½ to 12½, Profs. Hollister, Isham, Merriman and Bond; 3 to 6, Profs. Johnson and Nelson, Andrews and Hatfield, and Byford.

FRIDAYS. SOCIETIES.

Friday, March 9.—State Microscopical Society of Illinois. Regular meeting, 8 P. M.

CLINICS. *Every Friday.*

At County Hospital—2 P. M., *Medical*, Prof. Bevan; 3 P. M., *Surgical*, Prof. Bogue.

At Mercy Hospital—2 P. M., *Medical*, Prof. Davis.

At Chicago College—2 P. M., *Gynecological*, Prof. Roler.

At Central Dispensary—2 P. M., *Diseases of Chest*, Dr. Harroun; 3 P. M., *Dermatological*, Dr. Maynard.

LECTURES. *Every Friday.*

At Rush College—9 to 1, Drs. Wadsworth, Jackson, Strong and Knox. At Chicago College—8½ to 12½, Profs. Hollister, Isham, Hatfield and Bond; 3 to 6. Profs. Davis and Curtis, Jones and Quine, and Roler.

SATURDAYS. CLINICS. *Every Saturday.*

At Chicago College—2 P. M., *Surgical*, Prof. Andrews or Isham; *Gynecological*, Prof. Nelson; 3 P. M., *Medical*, Prof. Johnson.

At Rush College—2 P. M., *Surgical*, Prof. Gunn.

LECTURES. *Every Saturday.*

At Rush College—9 to 1, Drs. Owens, Bridge, Sawyer and Danforth. At Chicago College, 8½ to 11½, Profs. Hollister, Quine and Hyde; 3 to 6, Profs. Nelson and Johnson, Andrews and Quine and Byford.

At all the above named Clinics visiting regular practitioners are, we believe, admitted.

At the South Side Dispensary (Chicago College) there are six daily special Clinics, for sections of the classes of the Chicago College.

The Spring Course of Rush College begins March 7th. The Winter Course of the Chicago College ends March 20th.

THE

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AND

EXAMINER.

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Original Communications.

AN UNUSUAL BLOODY TUMOR BEHIND THE UTERUS.

BY PROF. WM. H. BYFORD.

[Clinical Lecture held at the Mercy Hospital, Oct. 23, 1876. Reported by Chas. A. Palmer, M. D.]

The patient I present to you to-day is Mrs. E. H. McC., aged 35 years, from the country. She is a small woman, of highly nervous temperament, with a history warranting the belief that she has for several years been suffering from some affection of the pelvic organs. She is the mother of several children, and her labors have not been attended with any unusual features, but from these, in consequence of a delicate constitution, she has always rallied slowly. Her menses are usually regular, but somewhat profuse, and attended with a sense of weight. She has most of the time leucorrhœa and more or less backache, but is able most of the time to attend to her household duties, which are sometimes arduous. She menstruated about the first of June last in what she considers a regular manner. She saw no bloody discharge again for five weeks, when she had a slight discharge that continued a much shorter time than usual. In about five weeks thereafter, she

had a more profuse discharge, and with it pains resembling those attendant upon uterine contractions.

Since that time—which was early in September—there has been a pretty constant bloody discharge, sometimes quite free, but usually only moderate in quantity.

About the first of August her family physician examined her per vaginam, and believed she had retroversion of the uterus, and prescribed for her according to this supposition. He made another examination about the middle of September, and still considered the case one of retroversion. The first of October, after making another examination, he diagnosed a retro-uterine tumor; and about the middle of October he assured himself that it had grown to be much larger than at the last examination, and advised her to visit Chicago for further examination and counsel.

The patient informs me that, she experienced considerable nausea during the first three months, subsequent to the commencement of her menstrual irregularity. Within the last week she thinks she has felt motion similar to those experienced in her former pregnancies, and believes herself now pregnant.

Although she suffers some inconvenience from pressure upon the rectum and bladder, she is otherwise in the enjoyment of her usual health.

I examined her day before yesterday, and again yesterday, with my colleague, Dr. Roler.

The uterus is enlarged, pressed forward against the pubic bone, extends about two inches above the symphysis, and occupies the median line. The uterine sound was easily introduced into it three inches and a half. Behind the uterus and arising fully two inches above it, is a tumor with a deep and well-marked sulcus between it and the posterior wall of that organ. The tumor is tense, elastic, and as felt through the abdominal walls, regularly globular in shape.

Through the vagina the finger detects a very tense tumor strongly distending the *cul de sac* of Douglas. It is very prominent, pressing the posterior wall of the vagina forward beyond the cervix of the displaced uterus, and extending within an inch of the vaginal orifice.

Percussion of the abdominal tumor imparts a very distinct sense of fluctuation to the finger, placed upon the vaginal tumor. This effect of bimanual exploration assures us that both hands touch portions of the same tumor, and that the contents of it are at least partly fluid in their character. When the uterus is moved, the motion is imparted to the tumor and vice versa. There is no resonance upon percussion over any of the abdominal parts of the tumor. By auscultation no sound is heard except in the immediate neighborhood of the sulcus, between the tumor and the uterus, where a very fine arterial *bruit* is distinctly perceptible.

If we now sum up our observations, gentlemen, we find this much definitely made out; viz., there is a rapidly growing tumor, containing fluid occupying and strongly distending the retro-vaginal peritoneal *cul de sac*, extending into the abdomen more than half way from the pubes to the umbilicus, *moving* with the uterus, a fine arterial *bruit* between it and the uterus, and that in the person of an intelligent, observing woman who has borne children, who declares she feels fœtal movements in the tumor and believes herself pregnant.

In the absence of the true placental murmur, the sounds of the fœtal heart and the insignificant signs derived from ballottement the diagnosis is very obscure, and requires further exploration to determine.

As the tumor is growing rapidly and has begun to cause inconvenience from pressure upon the bladder and rectum, I deem it best to open it through the posterior wall of the vagina, and, if possible, remove it, or if this proves to be impracticable, to evacuate its contents and take measures to obliterate its cavity.

After being anæsthetized by ether, the patient was brought into the amphitheatre, placed upon the table on her left side, the vagina distended by Sims' speculum, and the operation was performed in the following manner; viz., commencing half an inch below the junction of the vagina and posterior surface of the cervix, an opening was made by the galvano-cautery knife in the median line of the posterior wall of the vagina, one inch and a half in length.

As soon as the sac was perforated there escaped a large quantity of maroon-colored fluid, when the tumor collapsed, so that the whole internal surface of the cyst could be easily reached by the finger introduced through the wound. Thus examined, the inner surface seemed irregular and the wall of the cyst firm and resisting.

The discharge having entirely ceased, the patient was about to be sent to her room, when Dr. Roler placed his hand above the symphysis, and manipulated with a view to ascertain the condition of the abdominal portion of the tumor.

This manœuvre, although performed with gentleness, started up an active arterial hemorrhage. An examination made it quite evident that the flow came from a source located high up in the cavity of the sac, and not from the divided edges of the vaginal wall, which was in fact firmly consolidated from the effects of heat. With a view to check it, a mixture of Monsel's solution of the persulphate of iron, one part to two of water, was thrown through a long tube into the cavity, so as to reach the more remote part of the cyst. This, however, failed to produce any effect upon the hemorrhage. The whole cavity was then filled with pellets of cotton-wool, half as large as a hen's egg, saturated with the same mixture. Each piece of cotton was secured by twine so that it might be easily removed. It was not until the sac was entirely filled and firmly packed with this prepared cotton, that the bleeding was arrested. By this time the pulse of the patient was decidedly affected by the loss of blood.

After the patient was removed from the table, the lecturer proceeded to say: The results of this operation are somewhat surprising. I had not expected to find this tumor filled with fluid blood, much less to encounter such formidable hemorrhage.

Now what is this tumor? By the light shed upon this question in the operation, notwithstanding it was filled with blood, this tumor cannot be regarded as an ordinary retro-uterine hematocele. The following, among other reasons, seem to me sufficient to justify this conclusion: 1st, It was a *growing* tumor, and I believe it had been steadily increasing in

size for over four months. 2d, It moved with the uterus. 3d, It was filled with fluid blood. 4th, An arterial *bruit* could be distinctly heard. 5th, It bled actively after it was opened. 6th, The sac was firm and elastic, as proven by the resistance to the finger introduced for the purposes of exploration, after the evacuation of the fluid and the firm packing with the cotton.

By contrasting these with the conditions observed in the ordinary intra-peritoneal hematocele, we may better appreciate the significance of these propositions.

The hematocele attains its full size in a very few days. If it reaches above the uterus, it covers and surrounds that organ, is not elastic but doughy and soft; is not so well defined in its upper boundary, is not wholly movable with the uterus as this tumor was; there is no arterial *bruit*, and it is attended with much more local suffering. Again, if we puncture an hematocele several days after its formation, there issues reddish serum, and the finger introduced into its cavity meets with clots of more or less firmness, corresponding to the length of time after the effusion has taken place. Sometimes these coagula adhere so tenaciously to the walls of the adventitious cyst, that it is difficult, if not impracticable, to completely remove them.

These reasons seem to me sufficient for removing the tumor under consideration from the category of hematocele, as the term is usually considered Then the question recurs, what is the nature of this tumor and in what tissues is it located? In answering this question, let me draw your attention to the fact pointed out by anatomists, that there is quite a considerable amount of connective tissue richly supplied with blood vessels, situated between the peritoneum and posterior part of the cervix, and extending upward somewhat on the body of the uterus, and slightly downward on the posterior wall of the vagina. I believe this is the locality of the sanguineous effusion. If we suppose that an artery passing through this mass of connective tissue, had given way and continued to inject its blood into it, we have sufficient cause for the commencement of the tumor. After this has taken place, the pressure exerted

by the vis a tergo of the circulation would further distend the artificial cavity, until it might assume the formidable dimensions and present all the phenomena observed in the case before us. It might in fact become a false aneurism, and the enveloping tissues be hypertrophied to a degree corresponding to the resistance and density of this cyst. This attachment would readily account for the fact that the tumor moved with the uterus. This theory of its origin would also enable us to explain why the hemorrhage succeeded the evacuation of the contents of the tumor.

I cannot call to mind any other condition of things, by which all the circumstances attending its growth and evacuation could be intelligently accounted for.

Believing the reader would be interested in the subsequent history of the case, the reporter subjoins a brief transcript, or rather summary, of his notes after the operation. During the first twenty-four hours, two of the pieces of cotton were removed, at the end of forty-eight hours all the remaining portion of the tampon was withdrawn. This was easily accomplished by traction upon the pieces of twine attached to the several pellets of cotton. No bleeding succeeded this removal, and not the least odor could be detected, so that the iron acted both as a perfect hemostatic and disinfectant. The first and second days, the vagina was well washed out by carbolized water, and afterward the cavity of the cyst was cleansed three or four times daily by conducting the same fluid into its deepest recess by an elastic male catheter. The other treatment consisted in drawing off the urine every six hours for three or four days, giving morphia sufficient to subdue pain and administering nutritious diet. The patient recovered without any untoward symptom, and was discharged on the 15th of November, sufficiently restored to make a journey of one hundred miles to her home, five miles of which were in a carriage.

Two weeks after leaving the hospital, her husband wrote to say that Mrs. Mc. was again quite well.

PREPUTIAL STENOSIS—ITS POSSIBLE COMPLICATIONS AND CONSEQUENCES..

By JAMES NEVINS HYDE, A.M., M. D.

The preputial orifice, when affected with stenosis, relative or absolute, may produce most of the conditions recognized under the names, phimosis and paraphimosis. From complete preputial atresia to slight contraction of the opening, there are various degrees of deformity which correspond, if not in an anatomical, at least in a genetic sense, to the various forms of imperforate, circular and contracted hymen in the female. The prepuce of every male infant is at birth normally in a condition of phimosis; and the question whether or not this condition will eventually result in an abnormal relation of the parts, depends upon the question whether the future development of the glans penis and its investing sac, will be proportionate or disproportionate. According to Van Buren and Keyes,[1] whenever retraction of the prepuce of an infant will permit the glans to be seen, no anxiety need be felt respecting the condition of the parts at puberty.

The recent publication of several papers containing reports of interesting cases, in which phimosis was a prominent element, has directed the attention of the profession anew, to the necessity of correctly estimating the etiological value of this deformity. I have concluded in these pages, therefore, to present a brief digest of some of the interesting features of such cases, without claiming that the instruction which they convey, is either specially new or original.

The direct local results of narrowing of the preputial orifice, differ somewhat according as full retraction is, or is not, possible. In the former case, ablution of the parts is practicable, and thus one source of trouble is removed; still, both conditions may be followed by similar consequences. In adults,

1 Surgical Diseases of the Genito-Urinary Organs, etc., N. Y. 1864 page 18.

where retraction is possible, though slightly painful, the muco-cutaneous opening being more or less tightly stretched as the glans is squeezed through it; the most obvious effects are noticeable upon the ring itself. Here first arise the excoriations, often mistaken for venereal lesions, which may be followed by cicatrization, merely serving to render the ring still less extensible. In this way is often laid the foundation for a severe, obstinately recurring attack of herpes progenialis, or preputialis—a disease which, when fully developed, is as capable of making life utterly miserable as the aggravated forms of eczema ani.

Less obvious is the interference with the development of the penis, which invariably follows. I am quite convinced, from careful observation of many cases, that even the power to fully retract the prepuce does not satisfy the necessities of the organ. For, if the constricting ring be temporarily withdrawn behind the corona glandis, in such individuals, it is speedily followed by a sense of discomfort, and returned to its former position. The glans, then, from childhood to puberty, is compelled to accomplish its development with a membranous hood firmly embracing it—often as firmly as a glove finger, the phalanx. The glans becomes dwarfed, and, as a matter of fact, the size of the body of the penis is proportioned to the size of the glans. Apart from the inconvenience resulting from the irritability of the tender mucous surfaces, thus constantly covered, a grave consequence, and one worthy of consideration, is the mental and moral effect of this deformity upon the individual thus situated. The utterly morbid sensibility of such patients, is only equalled by the condition of hypochondriasis, which accompanies true spermatorrhœa. The following case illustrates this point:

CASE I. E. J., a healthy young man, 22 years of age, five feet eight inches in height, well proportioned, and with finely developed limbs and testes, presented himself for advice in May, 1872, on account of the size of his penis. When flaccid, the organ was but two inches in length, and in circumference no larger than the little finger of a hand of average size. The prepuce could be retracted, but with great difficulty. Upon attempting intercourse, two years before, he had been rallied by his companion upon the diminutiveness of the organ, and since then had been almost

constantly brooding over the misfortune, till his mental condition had completely unfitted him for his services as a book-keeper. Circumcision was practiced the following week, and in three months the organ had quite doubled in size.

The best evidence as to the controlling effect of the prepuce in such cases, is the marked and speedy increase in the size of the penis, after the constriction has been, by any method relieved.

When retraction is impossible, the direct consequences are well known to all who have had much experience in the treatment of disorders of the male genital organs. These are, in the infant, "ballooning" of the preputial sac, during micturition, the urine accumulating more rapidly from the opening in the glans than it can escape from the preputial outlet, and collection of sebum which becomes in some cases as hard as the rind of cheese. This collection resembles the hardened vernix in the vagina and cervix of some female children. Subsequently, balanitis, thickening of the mucous membrane, agglutination of the mucous surfaces of the glans and prepuce, suppurative inflammation, vegetations, saline incrustations, preputial calculus, development of parasites, and other complications may arise. The connective tissue of the foreskin soon becomes infiltrated with serum, upon the absorption of which hyperplasia supervenes, and the prepuce becomes inelastic and indurated, or boggy and swollen. In the adult, of course, these same conditions obtain, and are often complicated with chancre, chancroid, gonorrhea, specific balanitis, and lesions of secondary syphilis, such as condylomata, transformed chancres (Fournier), mucous patches, and other syphilides. No small source of trouble in the adult is the consequent soiling of the clothing during micturition. The accumulated urine in the preputial cavity, escapes from its orifice in several contorted streams, whose direction cannot be sufficiently calculated upon to save the clothing, and the consequent inevitable urinous odor which escapes from the person. According to Gross, carcinoma of the penis and prepuce does not result;[1] though Mr. Colles, of Dublin,[2] says upon this point:

1. System of Surgery, Phil. 1872, p. 874.
2. Diagnosis and Treatment of Cancer, London, 1864, p. 251.

"No warty growth upon the prepuce should be neglected in any man of middle age."

It is, however, to the indirect consequences of preputial stenosis that I desire to call especial attention, as the induced phenomena are fully as interesting to the physician as the surgeon. These secondary effects are the result of what is now well recognized as "reflex irritation," and, although authors are not wanting to dispute the sequence of events thus named, still the testimony opposed to their reasoning is almost overwhelming.

The following is a condensed statement of a report made to the Thirtieth Annual Convention of the Ohio State Medical Society, by C. E. Beardsley, M. D., of Ottawa, entitled "Phymosal Paraplegia:"

CASE II. A tall lad, 14 years of age, with dark hair and eyes, extremely emaciated, had loss of power in the lower extremities, inability to hold the head or vertebral column erect, and also suffered from epileptiform convulsions. The latter could be occasioned by pronouncing the word spasm or fit in his presence, or by concussion of the hands, and this as often as he could be aroused from the stupor which followed each attack. He had been thrown from a horse a year before the occurrence of the convulsions, and to this accident the disorder was attributed. The boy was semi-idiotic, with complete paralysis of the lower extremities.

Beardsley observed dribbling of the urine and partial erection of the penis during one convulsion, which attracted his attention to the genitals. The prepuce was non-retractable, the orifice very small, and behind the corona glandis could be felt a ring of some dense substance. There was slight balanitis and adhesion of the mucous surfaces. Circumcision was performed, the mucous membrane torn back, and a ring of dense sebum removed, as hard as ordinary cheese-crust. Recovery was in all respects satisfactory, the young man becoming finally a perfect model of health and strength.

CASE III. A child, 7 years of age, had convulsions, followed in less than ten months by complete paralysis of the lower extremities, being unable to support the body on the limbs, or to move the latter. As the convulsions occurred at night on micturition, the genitals were examined, the foreskin found adherent, and signs of recent inflammation were distinct. Circumcision, removal of pent-up sebum, and rapid recovery followed.

CASE IV. A 10-year-old child had complete paralysis of both lower extremities, convulsions, loss of vision, emaciation and inability to lift the head from the pillow or support the body; he gradually had become idiotic. For three years epileptiform convulsions occurred, upon an average once in three hours. Then followed circumcision, with liberation of a semi-solid ring of sebaceous matter, and rapid recovery so far as the ability to sit up and walk about. Vision, however, (one month prior to the date of report), had scarcely improved.

CASE V. A child, 12 months old, had double internal strabismus, continued rolling motion of head, convulsions, and distinct paraplegia, not so well marked, however, as in the preceding cases. The head could not be supported on the trunk. The epileptiform convulsions were contemporaneous with micturition. An adherent foreskin was excised with the effect of rapid restoration of health and entire cessation of convulsions. Child still under treatment (at date of report) and squinting merely.

In considering cases of this character, a natural surprise is awakened, not so much by the induced phenomena, as by the fact that the trifling cause of diseases so grave in their features and portent, should not more frequently escape all recognition. But yet it is at the portals of the human body that its sentries are stationed—not within its inner chambers. And of all these sentinels, that posted at the sally-port of the external genitals, is the most alert and importunate.

It is unnecessary, in this connection, to cite cases where incontinence of urine—diurnal as well as nocturnal enuresis—has originated in preputial irritation—Trousseau,[1] Black, Pitha, Bryant, Packard, Sweigger-Seidel, and in fact almost every author who has contributed to the literature of the subject, have reported instances of the kind. Their history is, in general, the same, beginning with scolding and whipping, drugging for worms, kidney and bladder complaints, yet always the same continual wetting of bed and body clothing, until finally the surgical character of the disease is recognized. Surely in the light of these facts it becomes the duty of every practitioner who discovers a wet napkin upon a male child over one year old, to enquire as to the cause. Dr. J. H. Pooley has recently published an excellent lecture upon this subject, entitled "Points in the Surgery of Childhood,"[2] in

1 Gazette des Hopitaux, No. 9, 1860.

2 A Series of American Clinical Lectures. Vol. II., No. 9.

which he directs special attention to the subject of nocturnal incontinence. In one of his cases, stillicidium occurred from an overcharged bladder, the distended preputial sac depending from the end of the penis in a semi-transparent bag as large as a hen's egg, "presenting a most astonishing sight, and giving rise to severe pain."

It is, however, quite necessary here to insert the caution, not to conclude that because preputial difficulty may induce nocturnal enuresis, that therefore all nocturnal enuresis is of preputial origin. This is far from being the case, for it is hardly necessary to state that nocturnal enuresis of young male children may be caused by reflex irritation from several organs. I am positively of the opinion that circumcision will completely relieve whenever the prepuce is irritated or irritating, and never otherwise. Only last week I was consulted with reference to a boy six years old, who had been circumcised four years ago, and had regularly wetted his bed every night since. But here the mere inspection of the penis indicated the fact that there had been extra-preputial irritation.

Dr. Brown-Séquard recently made to Dr. F. N. Otis[1] the following interesting statement:

> CASE VI. While in London during the past year a gentleman was brought to me who presented all the rational signs of advanced cerebral *ramollissement*. I had looked upon the case as quite a hopeless one, until noticing that the patient frequently applied his hand in an absent sort of way to his genital apparatus. Permission being accorded, examination of the parts revealed an aggravated inflammatory phimosis, complicated with acute balanitis. On making this discovery, I expressed my belief of the possibility that the *apparent ramollissement* might be due to reflex irritation. Complete ablation of the prepuce, with treatment of the balanitis was advised, and practised; and in six weeks thereafter he presented himself at my office, well in every respect.

Dr. Otis' paper presents in the most lucid and forcible manner the results of reflex irritation throughout the genito-urinary tract, induced by contraction of the urethra at or near the urinary meatus, both congenital and acquired. Though the cases reported do not fall within the scope of this article, still they go far to confirm the belief which I desire to insist

1 Ohio Med. and Surg. Jour.. Vol. II., I., p. 16.

upon in connection with the subject—a belief which he expresses as follows: the full significance of this locality as a source of reflex irritation, has not yet been appreciated. A curious illustration of this irritability, was displayed in his 12th case, where constant rhythmical contraction of the cremaster muscles had induced a spasmodic action of the testes, which were carried up and down alternately in the scrotum, with a see-saw motion. Relief was had by division of strictures.

Vulpian[1] is of the opinion that there is no such thing as reflex functional paralysis, and his views are apparently shared by Dr. Jacobi, of New York, who believes that the doctrine of reflex paralysis will be greatly reduced in influence, when a more careful study is given to the cases whose phenomena it is supposed to explain. Thus nervous symptoms, consecutive to lesions of the genitals, are more often referred to contiguous transmission of a morbid process along the nerves upward to the spinal medulla, than, as formerly, to reflex paralysis—the diagnosis of ascending neuritis and myelitis being substituted for the former. In a recent paper on Masturbation and Hysteria in Young Children,[2] he remarks that, in spite of the vigorous and sagacious efforts of such observers as Drs. L. A. Sayre and F. N. Otis, he hesitates to fully accept their views as to the frequency of neuralgic, spastic and paralytic symptoms depending upon phimosis.

These opinions of an observer as judicious and as careful as Dr. Jacobi, are entitled to their full weight. But in the criticism of a selected case which he cites, his objections are chiefly of a negative character—the argument being, that in order to connect a disease with an efficient cause, it is necessary to show conclusively that all other usual causes were not in operation. This is a sound argument in logic, but one which is manifestly weakened in force when we consider another phase of this question, viz., whether when by the removal of a possibly efficient cause an effect ceases, a fair presumption can be raised that some other cause may have operated to produce that effect.

1 Lecons sur l' Appareil Vaso-Moteur. Lecon 17. Paris, 1875.

2 Am. Jour. of Obstet. and Dis. of Women and Child. Feb., and June, 1876.

The criticism is of a case reported by Dr. J. H. Hunt,[1] entitled: Partial paralysis from reflex action caused by adherent prepuce.

CASE VII. The patient, a boy 6 years of age, had a peculiar staggering walk, in which he seemed unable to properly control the lower extremities, and was therefore subject to frequent falls. He was nervous, and exhibited a twitching of the muscles of the face and extremities. His penis was found erected. He started and screamed in his sleep. In an attempt to protrude the tongue, it rolled about the mouth. Articulation and intellect were below the average; in the neighborhood the boy was considered idiotic.

Now Dr. Jacobi objects that the condition of the heart and spine is not stated, nor are any details given as to the previous existence or non-existence of masturbation, or acute articular rheumatism,—facts which should certainly be narrated in giving a history of a case of protracted chorea minor. But for all this, circumcision was followed by rapid improvement.

Dr. Sayre, to whom reference is made above, reported several such cases to the American Medical Association in 1870, and has since contributed largely to the literature of this subject. An illustrative example is given in his recently published lectures on Orthopedic Surgery, which is worthy of note:

CASE VIII. A delicate boy, 5 years old, unable to stand or walk without assistance, had his knees flexed at an angle of forty-five degrees, and Dr. Sayre was summoned to perform subcutaneous myotomy. Convinced that the deformity was of paralytic rather than spastic origin, the surgeon was proceeding to apply the continuous galvanic current over the upper portion of the thighs, when the nurse warned him not to touch the the boy's "pee-pee," as it was "very sore." The latter was in a state of extreme erection; glans small, pointed and tightly imprisoned; meatus, puffy and reddened; orgasm and slight convulsion invariably followed contact. Circumcision, with removal of dense sebaceous ring, gave complete relief.

Another such instance has recently been recorded by Dr. E. P. Hurd, of Boston,[1] in such fullness that it cannot be here reproduced in detail:

CASE IX. The lad was 7 years old; and the symptoms those of *Ataxie locomotrice*, incoordination of muscular motion, staggering, headlong

1. N. Y. Med. Record, Oct. 16, 1875.
1. Bost. Med. and Surg. Journal, Jan. 18, 1877, p. 68.

pitching, inability to carry food to the mouth, pupils dilated, double outward and upward squint (paresis of third pair of nerves, Jaccoud) and intellectual hebetude. After one severe epileptiform convulsion, a medical man who saw the case in consultation, was inclined to the diagnosis of scrofulous cerebellar disease. The little patient continued to fail rapidly, when an accidental glance revealed an elongated strangulating prepuce, and minute urinary punctum. An operation was followed by complete relief, the only relic of the disturbance being an occasional stiffness and awkwardness of the gait in running.

I shall not dwell upon the fact that the local irritation resulting from preputial stenosis, is often the first link of the chain which results in confirmed habits of masturbation, because there are few professional men who will not assent to the assertion. I am strongly of the opinion that many young men who are carrying about with them an intolerable wound of the moral consciousness, are more sinned against, than sinning. Sinned against, I repeat, merely because it is the duty of every parent to insure his male child a fair entry into the lists of the struggle where the fittest survive, by providing him, as far as possible, with a healthful body. Neglect or evasion of that duty is surely a sin. It is probably true that numbers of boys are taught pernicious practices in schools, but a very large proportion of such cases result from manipulation of the genitals, the incitement to which lies in an irritable prepuce and undue sensitiveness of the mucous membrane. Dr. Jacobi[1] has done excellent service in calling attention to the extremely early age at which masturbation can be practised. In one of his cases, the orgastic excitement seems to have been produced between the ninth and thirteenth month. Physical examination of these little patients, generally reveals red, œdematous, exquisitely tender glans and prepuce, friction upon which by the clothing, when riding in the street cars or upon a rocking-horse, when climbing, when the thighs are approximated or crossed in the sitting posture, (especially upon the floor), or when efforts are made to extricate the male organ from the thick "first pair" of trousers, suffices for the effect.

In adult males the hyperæsthesia of the membrane may

1. Op. cit.

engender a species of pseudo-impotency. I have observed two cases in which this condition was so marked that intromission in coitus was at once succeeded by ejaculation; and marital unhappiness resulted. Doubtless others have been consulted for similar trouble. I have no question that the advisability of circumcision for such patients should be carefully considered, especially when there is præputial retention of semen, such as Erichsen[1] reports that he has known.

True excessive nocturnal spermatorrhœa, as distinguished from undue prostatic secretion under various excitants, is often occasioned by præputial stenosis. The distinction between the two forms is important. It was Ricord who announced that there is a disease worse than syphilis—syphilophobia. One is tempted to add that the youth who, when straining at stool, finds a little glairy prostatic fluid at the meatus, and is thereafter for years confident that he is wasting away with spermatorrhœa, is more to be pitied than the syphilophobist. Subjoined is a single case of my own observation, which illustrates the truth of the statement made above:

CASE X. A gentleman, 35 years old, living in Wisconsin, wrote to consult me regarding a nocturnal spermatorrhœa which was of such frequent occurrence that he was gradually wasting away under its influence. Sexual desire had been wanting for several years—the discharges occurred often six and eight times in the week, without dream or erection. In answer to the full and careful inquiries of my letter, he responded that retraction was impossible, and had always been so. On the strength of my written opinion that an operation might afford him relief, he visited Chicago in June, 1873, and submitted himself to an examination. I removed a rigidly contracted prepuce whose minute orifice was surrounded by tissue of almost cartilaginous hardness, and in three months thereafter, as he remained free from his trouble, he contracted a matrimonial engagement, which (he has since reported by letter) has proved to be the happiest step of his life.

The connection between preputial deformity and intestinal disorder has been noted, so far as I am aware, by but three authors,[2] and that in brief terms. Perhaps, for this reason, a reference to two cases of personal observation, where such

1. Science and Act of Surgery, Phila., 1869, p. 1140.

2. Van Buren and Erichson. Op. cit. Henry, Am. Jour. of Syph. and Derm., 1870, p. 123.

connection seemed evident, may prove of interest. If a child has "ballooning" of the prepuce during micturition, he usually assists the expulsion of urine by straining, and prolapse of the rectum is liable to ensue.

CASE XI. A 3-year-old child had frequent prolapse of the rectum at stool—the bowel descending two inches at times—the discharges being frequently bloody, always painful and accompanied by a fit of crying and straining, from which he recovered in a faint and exhausted condition. Occasionally, instead of voiding feces which were merely stained with blood, he had evacuations which the mother described as consisting of "almost pure blood." The gait was unsteady, the child frequently falling when walking upon a level plane. Prepuce, redundant and slightly puffy—"ballooning" during micturition with expulsive muscular effort The child frequently cried out that a pin was pricking him, pointing at the same time to the genitals; and on such occasions when his clothing was examined, no cause for complaint could be found. While practicing circumcision the preputial fold of mucous membrane was found reddened and almost double the normal thickness. After the operation the child had rectal prolapse and a bloody discharge once only—two days after the operation. He is now in perfect health.

CASE XII. A lad employed by the American District Telegraph Company, aged 8 years, was brought to me by his father in consequence of "lumps in the groin." He was a fine, healthy, rosy-cheeked boy, with an innocent and honest expression of countenance. He was found to be affected with double inguinal hernia, easily reducible. On close questioning I discovered no cause for the rupture, excepting that he had for some time been straining excesstvely at stool—the inguinal swelling having gradually more and more attracted his attention. While manipulating the hernial tumors in the process of their reduction, I observed that as soon as the scrotum or inguinal regions were touched, the penis at once became rigidly erect, and this the instant the touch was repeated. This phenomenon was also observed by Mr. Smith, the instrument maker, who, at my request, took his measurement with a view to applying a double truss. I questioned the lad carefully with reference to his habits, and he affirmed with candor that he had never improperly handled the parts, since all the boys employed by the Company had been warned against the consequences of such a practice. I then, with considerable difficulty, succeeded in retracting a tight prepuce and in extricating from beneath it a dense ring of crust-like sebum, the patient stating that the foreskin had never before been drawn back, and that he had not known such a removal was possible. His father was instructed with regard to the proper cleansing of his boy's penis, and has since reported the radical cure of the hernia, as well as relief from straining at stool, and from the almost constant priapism.

Reliquet[1] furthermore describes a general hysteriform condition associated with preputial irritation, and Van Buren and Keyes cite a case in which all the symptoms of cystitis were induced by a tight prepuce with a small orifice enclosing a sensitive glans. Ablation of the foreskin relieved the patient, who, six years afterward, had no recurrence of his disorder. Coulson[2] gives the similar history of a boy seven years old. Other cases where symptoms of stone in the bladder were relieved by preputial excision, are on record.

The contraindications for circumcision may be briefly stated as those which would, when judiciously considered, forbid surgical interference, in any case.

The apparatus and procedures devised for the operation, have indeed been numerous. Beginning with the Jewish shield or lyre, and the primitive wooden disk of the Arab, the long list includes the devices of Guérin, Cusco and Panas; Blandin's bistoury, with retractable sheath; Nélaton's[2] triblade forceps; Cruise's[4] double blade dilator; Ricord's guarded needle; and Henry's lead lined director, in which the point of a bistoury is buried, after transfixion from without inward.[5] Henry has also constructed a pair of strong, curved, self-closing clamp forceps, for embracing the prepuce. W. R. Gillette, of New York, has succeeded in relieving the stenosis by the introduction of sponge tents. My friend, Dr. R. W. Taylor, also of New York, has an improved pair of scissors for use in the relief of phimosis, produced by chancroidal ulcers.[6] The blades are strong, three inches in length, the lower flattened transversely, at right angles with, and one-tenth of an inch larger than the upper one, rounded smoothly at the end, and resembling an elevator for necrosed bone. Its obvious

1 Traite des opérations des Voies Urinaires, Paris, 1869.

2 Diseases of the bladder. London, 1857.

3 Gaz. des Hôpit., 31, 1868.

4 Dublin Quarterly, 48, p. 482.

5 Am. Jour. of Syph. and Derm. 1870, p. 124.

6 On some practical points in the Treatment of the Phimosis, produced by Chancroidal Ulcers. N. Y., 1872.

use requires no comment. The procedures of Vidal, Dolbeau, Tripier and Cullerier, are described in most of the text books.

The simple but inelegant dorsal incision has the disadvantage of leaving on either side of the glans, two projecting wings or ears, which may become filled with plastic exudation, and seriously interfere with the usefulness of the organ. In one instance I have seen a nodulated mass as large as a hen's egg, depending beneath the frenum, after an incision made in the tissues when in a highly inflammatory condition. Combined with the circular operation, the dorsal incision meets almost all indications.

Pooley makes the useful suggestion to employ multiple sutures, after excision, with fine black silk—the color enabling the operator to remove them afterward with greater readiness. Henry used the continued suture and failed; but it is yet true that multiplicity of sutures, sufficient to give perfect coaptation, is required to secure the best results.

The so-called "backward slip" of the mucous membrane, by which after ablation of the fore-skin proper, a second phimosis is discovered of the membrane embracing the glans, has led to the general method of operating in two steps, successively dividing first the cutaneous, and later the mucous envelope. This should always be resorted to in the case of children.

In adults, the two layers may be simultaneously divided, when they are not agglutinated, by the method of Benjamin Anger, of the Bicêtre Hospital of Paris—his procedure having been recently made public in the French journals. The intended line of section is first traced in ink, when an assistant seizes the prepuce with two pairs of ordinary forceps, one above and one below the glans, being careful to make no traction with them, beyond what is necessary to advance the line beyond the glans. A double whip-cord ligature is then forcibly tightened about the projecting part in advance of the line in ink, and excision practised. There is no hemorrhage, no sutures are required, and no anæsthesia is produced. The pain is sharp and short. Anger claims that in two days his patients are dismissed.

I have operated by slightly modifying Anger's procedure as follows: A Wheeler & Wilson's sewing machine needle held in a pair of needle forceps, or a perineum needle, such as the gynecologists use, with an eye at the point, is threaded with silk, armed with a bit of wax, smeared with vaseline, and carried through the preputial meatus. The foreskin is pierced from within outwards on each side of the glans, at a point midway between the centre of the dorsum and the frenum. The thread is withdrawn from the eye of the needle, the needle brought out as it entered, and after this operation is completed on both sides, traction is made upon the loops of silk until the line in ink is advanced beyond the glans. Then the whip cord ligature is applied as by Anger, and ablation practiced. This method also is, of course, inapplicable, where adhesions have occurred, since the latter preclude the possibility of drawing forward the prepuce.

The treatment of paraphimosis, which is merely an accidental complication of preputial stenosis, requires the greatest consideration in the adult where there are coexistent chancrous or balanitic lesions. I desire merely, in concluding this sketch, to call attention to the fact that when this accident occurs in children, the operation for the so-called relief of stricture, is quite valueless. For actually, even if the nicking of the tissues behind the corona is done, the paraphimosis is not reduced. The reason is that so much of the preputial tissue is distended by the infiltrated swelling, it becomes impossible to draw this swollen tissue over the glans. Of course, when practicable, compression of the glans should be practiced in order to execute the little manœuvre represented by plates in most of the text-books. When this is ineffectual, the parts are best left covered with a cold water dressing merely, and the paraphimosis allowed to take care of itself. I think the annals of the surgery of childhood will be sought in vain, to discover a single case where strangulation and gangrene of the glans followed. That which actually occurs is relief of the præputial stenosis and the paraphimosis at one and the same time. A transverse ulcer soon forms, to liberate the soft tissues of the encircling ring. The infiltrated foreskin

thereafter refuses to come forward till resorption has occurred. This is not speedily accomplished, and the consequence is that in the end—and I speak after observation of many cases—the formerly tender and irritable glans becomes indurated so as to endure the friction of the clothing, the prepuce can be worn back of the corona, and nature accomplishes finally what the surgeon aimed to effect by his more brutal bistoury.

NOTE.—Since writing the preceding lines I have received an interesting monograph by Charles Mauriac, of the Hôpital du Midi, Paris, entitled "Mémoire sur le Paraphimosis," in which this subject is exhaustively treated. It was interesting to me to discover on the sixteenth page of this brochure the following remark, which confirms the statement made above—a statement at variance with the dictum of most authors in surgery—respecting the rarity of strangulation and gangrene following paraphimosis. I translate literally:

"I have read in several works that the constriction exercised by the præputial ring upon the subjacent tissues, may be so severe as to compromise the vitality of the glans and of the anterior portion of the corpora cavernosa. They speak of gangrene of the glans resulting from paraphimosis, as quite a common accident. Well, without denying this possibility, I declare that it must be very rare, and for myself I have never seen an example of it, where there were no chancrous complications. Without doubt, interference with the circulation in the glans may be carried to an excessive degree—the latter becoming turgid, violet colored, and in volume twice or three times larger than before. But by its vascular anastomoses with the corpora cavernosa and the spongy portion of the canal, the dangers resulting to it from compression of the dorsal arteries and veins of the penis, are obviated. I repeat, in uncomplicated paraphimosis, the *prepuce alone mortifies*, the glans, though placed in other conditions than those of its normal nutrition, *does not mortify*." [The italics are mine.]

Elsewhere this same author describes the contrast between strangulation in hernia, where the ring never ulcerates while the constricted gut mortifies, and in paraphimosis where the constricting ring generally ulcerates and the strangulated organ almost never. On the twenty-eighth page of his monograph he adds: "Strangulation of the prepuce behind the corona glandis results, so to speak, in the operation for circumcision, half finished." Mauriac supplements this natural operation by surgical interference in the removal of the plastic tissue remaining in the lower limb of the prepuce. But it is to be remembered that he is writing of paraphimosis in adults, and does not especially consider the accident as occurring in male children.

THE NITRATE OF POTASSIUM IN THE TREATMENT OF SCARLATINA.

By F. B. EISEN BOCKIUS, M. D., LL. B.,
(Consulting Physician to North Star Dispensary.)

At the present time, when the concentrated gaze, not only of the profession, but of the whole public, is turned to the prevailing epidemic of scarlet fever, it seems to me both wise and fitting that medical practitioners should exchange, in some tangible form, the record of results of different modes of treatment in this disease; and in pursuance of this belief I propose to submit my own experience in the use of the nitrate of potash, and the logical basis for such use, together with those points of collateral treatment which stand prominently associated with the success of that experience.

As a preposition to my essay, I will be pardoned for saying that, in my opinion, much valuable time and effort have been expended in ascertaining the province of new remedies, that would better have been rewarded in extending and developing the well known qualities of an old one.

I shall assume as tenable:

1. That the simplest and mildest of medicinal agents (in necessary properties equal), is most preferable.

2. That scarlatina is a zymotic disease,

(*a*). Characterized by a hyperplastic condition of the circulating fluids;

(*b*). That the primary danger arises from the direct influence of the septic poison on the blood, lymph and chyle; and may be measured by the harshness of the febrile symptom;

(*c*). That the secondary danger is due to inflammations of the serous and mucous membranes, and adenitis (sequelæ); which have their origin in the primary corruption of the nutritive fluids.

And in favor of the use of the potash salt, I shall urge a priori:

1. That of all the quasi-specific agents recommended in the zymotic fevers none possesses the accidents of popular employemnt, harmlessness and mildness of administration, in as great a degree as the nitrate of potash; while some, notably carbolic acid and the sulpho-carbolates, are violent local and cerebro-spinal irritants.

2. Whatever may be the theory of scientific men, based on the disagreeable odor of the remedies, experience in the arts firmly inculcates that no antiseptic has more honest claims for efficiency in destroying the germ of putrefaction and arresting fermentation, without impairing the nutrient properties of the material acted upon, than the subject of this article; experiments conducted in the field of the microscope demonstrate the rapid cessation of life in rudimentary animal and vegetable structures, when subjected to the influence of this drug. What then was my surprise to find that not one of our standard works on materia medica,or therapeutics devotes even a single word to this quality of the nitrate which has rendered it invaluable for the preservation of meats in the commercial world.

(*a*). All works on therapeutics agree in ascribing to this salt, in an eminent degree, the property of rendering the blood aplastic in the living, and maintaining its fluidity in the dead subject; while through the partial decomposition of the drug, in the circulation, and the consequent liberation of a portion of its abundant oxygen, the whole mass is rendered arterial, retaining its hue even after death. As plasticity of the blood seems an essential of rheumatism, which is a common sequela of scarlatina, the indication for the employment of the nitrate is plain.

(*b*). Practical therapeutists also agree in conceding to this salt the power of reducing the force and frequency of the pulse, and lowering the temperature of the body; requirements which are essential in this disease, and which are possessed by no other antiseptic.

(*c*). If the nitrate of potash is an antiseptic then, in so far as the specific poison, by contaminating the blood and lymph, is instrumental in developing serous, mucous, renal and

lymphatic inflammations, the effectual eradication of the germ and its arrested reproduction by means of this remedy, would measurably ameliorate these local symptoms; while if employed before their development it should prevent their occurrence. In the case of the principal gland liable to disease—the kidney—it should afford almost total immunity, both through its sedative action on the circulation, reducing renal congestion, and by its peculiar diuretic influence, being that of a stimulant to the functional activity of the secreting cell, instead of causing turgescence of the afferent vessels, as do the irritants; indeed, I know of no single remedy so certain of affording relief in renal suppression, from whatever cause, as the nitrate of potash.

With this theoretical showing in favor of my subject, I shall briefly consider its utility as an antiseptic in zymotic diseases in the light of experience. When I commenced the use of this drug, in the treatment of scarlet fever, I was not aware that it had ever been employed, or even recommended in the septic diseases; a hasty search through such works as were readily accessible, revealed but one such instance, being that found in Kost's Mat. Med. and Therapeu., p. 242, where mention is made of the great success of Dr. Stottsberry in the treatment of yellow fever by this medicine; and that of Dr. Stevens, who used it very extensively and with pre-eminent success in combatting the putrescent (zymotic?) fevers of British India; both experiments of quite recent date. To these facts I must be permitted to add my own observation during the present epidemic, in the early part of which I resorted to the ammon. carb. and belladonna treatment, with indifferent success, the disease not being dangerous, but the sequelae troublesome. Since employing the nitrate in scarlet fever, I have kept record of a large proportion of cases for the purpose of determinining whether the effect of the medicine was merely to delay the development of such sequelae as renal and lymphatic adenitis, or to completely obviate them with an opinion in favor of the latter; this record comprises one hundred and twenty-three cases, in which there were three deaths, all of the malignant type, two of which had been med-

icated injudiciously by a notorious quack, which had, however, but little influence on the result; cases so singularly free from disagreeable complications that I am compelled to believe that the harmlessness of the disease is due to the peculiarity of the treatment. The dose in which I have administered the remedy to children under 8 years of age, has varied from one to five grains, repeated every second or third hour during the first day and night, and every third or fourth hour (depending on the force of the circulation) afterward, until the normal action of the heart announces the cessation of septic irritation; the combinations in which I have used it, have been ipecac, opium and spt. nitre. Where decided evidences of weakness occur, I have prescribed quinia and iron; or better, if there be much emaciation, calcii phosph., pepsina and ol. morrhuæ in emulsion.

In those instances where the anginose symptom is pronounced, it is my practice to direct fat salt pork, sliced thin, stitched to a flannel, and sprinkled with powdered gum camphor, to be applied sedulously to the throat, until the impetiginous eruption, it is sure to produce, becomes unbearable; I do not favor the internal applications so frequently and harmfully made, where a frail, nervous child, suffering intensely from faucial inflammation, is harshly seized, its jaws pried open with a spoon, and while the little one struggles with its remaining strength for the necessary breath, the humane (?) physician shuts his eyes as if in sympathy, and thrusts a barbarous sponge probang, again and again, against the fragile membrane, tearing the immature cicatrices asunder, and leaving the whole faucial surface one bleeding sore; and then the intelligent (?) practitioner pathetically asks why his patients die, as if to live under such treatment were a pleasure. Whatever applications are to be made to the throat internally, should be conveyed by a camel's hair pencil; the combination I have found most useful, in the few cases I have had occasion to employ it, consists of

Acidi carbolici.....	grs. x—xx
Liq. ferri subsulph.	Min. x—xx
Potass. chloratis.....	ʒss
Aq. destil.....	fʒi

to be applied only by the physician himself.

Even where the throat symptoms are but slight, the officinal linimentum camphoræ should be embrocated, and the throat protected by a flannel; demulcent drinks to be freely allowed; temperature of the apartment to be kept at 70°, and the air moist; no baths are to be given at a lower temperature than that of the surface, until the eruption has faded. Under this treatment, faithfully executed, the period of the eruption is shortened at least one day, and the sequelæ, which commonly follow in its track, are almost unknown; in my experience 89 per cent., of those who had no complication when I first saw them, escape all complications. In closing, I wish to say that, however severe may be the local disturbance at the commencement of the disease, and whether peritonitic, urinary or gastro-intestinal, it will more surely and certainly disappear beneath the full, free and fearless administration of this salt, than under the usual treatment for idiopathic affections.

THE ENBALLOMETER.

By E. FLETCHER INGALS, M. D.

[Lecturer on Diseases of the Chest and Physical Diagnosis, in the Spring Faculty of Rush Medical College, Chicago.]

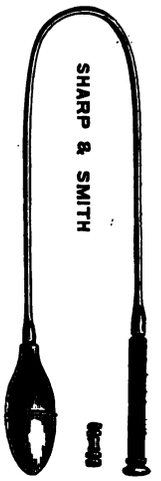
Auscultatory percussion was first brought to the notice of the profession by Drs. Camman and Clark, nearly forty years ago.

Their method of performing it was to press the objective end of a solid stethoscope* evenly on the surface directly over the most superficial portion of the organ or tumor to be examined, while the ear was applied to the opposite extremity of the instrument. At the same time an assistant performed percussion in the usual way, one or two inches from the point at which the stetherscope was applied.

* This instrument consists of a cylindrical piece of wood, about six inches long, and nearly an inch in diameter. The objective end is a truncated wedge, which allows of its easy application between the ribs. The other extremity is furnished with an ear-piece, which excludes external sounds

By this method, the examiner could map out the size of the liver, spleen, kidneys, heart or intra-thoracic tumors with great celerity, and almost as much precision as though the organs were exposed to view.

Notwithstanding the advantages offered by this method, it has never come into general use, probably on account of the inconvenience of obtaining assistants who would perform percussion satisfactorily. The Enballometer removes this difficulty by enabling the examiner to perform percussion for himself.



The instrument, as shown in the cut, consists of a hollow cylinder, three inches in length, with a diameter of seven-sixteenths of an inch. A chest piece is screwed upon the pectoral end of this cylinder, and by the other extremity it is connected, by means of a small rubber tube, eighteen inches in length, with a rubber bulb. Within the cylinder, fitting it loosely, plays a small, metallic plunger, or hammer. This hammer, shown separately in the cut, is turned from a rod of brass, is about one inch in length, and weighs half an ounce. Soft rubber cushions are placed within the cylinder at each end, to prevent the clacking sound which would otherwise be produced by the stroke of the hammer.

Immediately above the chest-piece, the cylinder is perforated, to allow free ingress and egress of air.

When the bulb is compressed, the hammer strikes upon the pectoral end of the instrument, and when it is allowed to expand, the hammer is thrown back by atmospheric pressure.

In using this instrument, the examiner applies the stethoscope with one hand over the most prominent part of the organ to be examined, while, with the other hand, he holds the enballometer, grasping the cylinder with the thumb and fore finger, and holding the rubber bulb in the palm of the hand by the remaining fingers.

If preferable, the examiner may hold the bulb with the disengaged fingers of the hand which holds the stethoscope.

The instrument should be held perpendicularly to the surface, and percussion made by sudden contraction and relaxation of the fingers holding the bulb. The relaxation should follow the contraction instantaneously, so that the hammer may at once recoil.

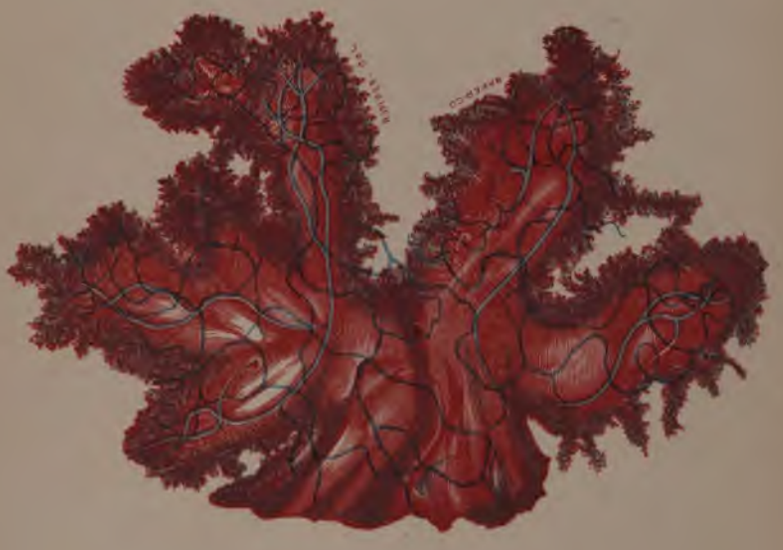
The results of the auscultatory percussion, aided by this instrument, are very satisfactory. The ordinary binaural stethoscope, with a small chest-piece, may be employed in place of the solid instrument recommended by Doctors Camman and Clark.

THE ANATOMY OF VILLOUS CANCER.

(WITH PLATE)

BY THE EDITOR OF THE PATHOLOGICAL TRANSACTIONS OF THE CHICAGO MEDICAL SOCIETY.

In the *Chicago Medical Journal* for September, 1872, may be found an article by Dr. John E. Owens, concerning a case of cystic disease of the ovary under his care in St. Luke's Hospital. Ulcerative perforation of the intestine took place, which was promptly followed by general peritonitis and death. In pursuance of my duties as pathologist to the hospital, I made a *post-mortem* examination of the body, and my detailed report to Dr. Owens is incorporated in his article. The case proved to be one of those unfortunate ones which are necessarily fatal, and are therefore beyond hope of cure by any combination of surgical skill or experience; but it was a very fruitful and instructive one from the standpoint of pathology. Among other pathological products, I found one which I described as follows—quoting from the report aforesaid: "The uterus was slightly enlarged, the cervix filled with tough reddish mucus. From its posterior superior aspect, a little to the right of the median line, a cauliflower growth was found as large as a hen's egg; this proved to be a beautiful specimen of villous cancer." At that time I prepared and mounted some thin sections of this specimen, and they are yet in a good



Drawn in Color under the Microscope from Dr. Danforth's preparation,
by R. U. Piper, M. D.

Engraved by Baker & Co.

state of preservation, so that a very good idea of the peculiar architecture of villous cancer may be obtained by studying them. Believing that a brief description of the anatomy of this singular as well as rare form of carcinoma may be of interest to the members of the Society, and to the readers of its *Transactions*, I offer the following observations, and submit the accompanying colored plate. I ought, in the first place, however, to say a few words respecting the plate. It represents with great exactness the appearances of the specimen from which it was drawn. The section was stained with Beale's carmine, and mounted in Price's glycerine in a glass cell. Contrary to my usual experience with glycerine preparations, it has kept remarkably well, and may yet be studied with considerable satisfaction. The camera drawing was made in colors by Dr. R. U. Piper, and I have again to acknowledge my great indebtedness to his skill and kindness. The engraving was executed under Dr. Piper's personal supervision by Messrs. Baker & Co., of this city. It is a most successful reproduction of the appearances presented by the stained specimen from which the drawing was made. It represents the structure as seen under a magnifying power of 45 diameters. Of course it will be understood that it represents a carmine imbibition, and not the natural color of the tumor. The so-called villous cancer of most writers upon pathology, is identical with the cylindrical epithelial cancer of Rindfleisch. It is very rarely seen except upon the surface of mucous membranes, and is then usually the product of long-continued irritative hyperplasia, most generally coupled with a constitutional tendency towards cancer—or a cancerous "diathesis." Its favorite locations are the mucous surfaces of the stomach and bladder—and of these, the bladder is most frequently invaded. "It occurs in its pure form," says Wagner; (General Pathology, page 492), "only on mucous membranes, (urinary bladder; uterus and vagina; so-called cauliflower growth of the vaginal portion of the uterus; stomach, etc.,) rarely in parenchymata." It is, in general, a modified form of papilloma, since it is developed from the same histological basis, namely, the epthelia of the papillar or glandular involutions of the mucous mem-

branes or integuments. But, pathologically it differs radically from the simple papilloma, in that it results in the production of an atypical cell growth; hence it is truly a malignant growth.

But although villous cancer is pre-eminently a disease associated with the mucous membranes, it is well known that it *may* occur upon the integument and upon serous membranes. Upon this point Rokitansky says, (Path. Anat. Vol. 1, page 216): "So far as we know, it occurs solely upon membranes, for the most part, the pituitous, and most particularly upon that of the urinary bladder, as so-called villous muco-membranous tumor. It also, although far less frequently, affects the common integuments and serous membranes." In the case under consideration, it was produced upon the free surface of a serous membrane; that is the reflection of the peritoneum covering the posterior aspect of the fundus uteri. As the peritoneal membrane is destitute of both glandular involutions and villi, it follows that these structures are not necessary for the production of papillary tumors, whether malignant or benignant. Enquiry into the history of the patient failed to develop any constitutional tendency to cancer, or any local irritation or injury sufficient to account for the growth. Moreover, upon inspecting the body, I found no other cancerous deposits in any part or organ. The villous tumor connected with the uterus, then, was, so far as could be determined, a purely local manifestation, due to some entirely unknown cause. In the light of recent investigations in the domain of pathological cytology, we are warranted in presuming that the growth had its inception in some irritative disturbance of the nutrition of the part—that condition of things which Arnott has called "irritative hyperplasia."

The investigations of Klein (Stricker's Histology, page 572), seem to have demonstrated clearly enough that lymphatic canals or spaces exist in the serous membranes. This discovery renders it less difficult to account for the development of a villous growth upon the surface of the peritoneum, since it is now well known that the cells of the lymphatic vessels play an important part in the formation of cancerous

structures. It seems now to be a pretty well settled doctrine of pathology, that cancerous new formations, whatever may be their variety or location, are the product of the atypical growth of epithelial cells. Of course this does not apply to the "small-celled infiltration;" but the small-celled infiltration cannot be regarded as a necessary element in cancer.

The specimen under consideration was, as I have described it, not far from the size of a hen's egg. It sprang from the posterior aspect of the fundus uteri by a large, short, stumpy pedicle; in fact, it would be just as accurate to say that it was sessile, and to regard the uterine or attached portion as the body of the tumor. The free surface presented the ordinary appearances of the more rapidly growing types of the papillomata; that is, innumerable papillæ or villi projected themselves in all directions from the body of the tumor, and reached out into the abdominal cavity. The surfaces of the mass of the tumor, and of the villous processes, were smooth and shining, and its color was identical with that of the neighboring peritoneum. The peritoneum, as far as the naked eye appearances indicated anything, seemed to be pushed forward, in advance of the sprouting mass, and therefore to cover each individual process which entered into the structure of the tumor. The growing villi underwent a process of subdivision, without any attempt at regularity or symmetry, until at length the ultimate villi were reached, and these were invariably clad with a luxuriant growth of cells, mostly club-shaped, or irregularly columnar; but these cells presented an endless variety, as regards form and size. That is, they were atypical epithelial cells; therefore they were typical cancer cells.

The plate represents a group of the larger villi, together with the pedicle by which they were attached to the body of the tumor. Their irregular or asymmetrical manner of subdivision is well shown. As the magnifying power was but 45 diameters, of course the minute structure of the ultimate villi is not shown—the design being rather to present a general idea of the architecture of the villous morbid growth. The vascular network was exceedingly rich. Only the larger

vessels are shown in the figure; the darker network representing the subdividing arterial twigs, the light blue lines showing the returning venous trunks. When the margin of one of the outgrowths shown in the plate is examined with a half-inch objective, the rough, nibbled appearance seen in the figure is resolved into a luxuriant growth of primary villi. These minute offshoots present a very great variety, as regards form, size, and type. Some are long and slender, closely resembling the intestinal villi; some are shorter, and terminate abruptly in knobby extremities; some have very slender pedicles, and then suddenly bulge out into pouch-shaped extremities; some have very large pedicles, and as suddenly dwindle away to a terminal point. There are villi which have but a single terminal extremity, and those which have two or three; that is, those which divide dichotomously, or trichotomously. In short, it would seem as though every known—or, indeed, possible—variety of villus is utilized in the make-up of the villous cancers.

When a single ultimate villus is studied with a quarter-inch objective, it is seen to be clad with a dense, compact layer of irregular cells. A blood vessel enters it, forms a twisted and tortuous loop, and then emerges. The body of the villus seems to be made up of a closely woven mesh of connective tissue cells. On a future occasion, it is my purpose to present a plate, illustrating in detail, the structure of an ultimate villus.

REPORTED, March 19, 1877.

EXPERIMENTS IN COLORED SKIN GRAFTING.

BY DR. J. H. WM. MEYER.

[House Physician in Cook County Hospital.]

CASE I. Name, Francis Bozee; age, 38; occupation, carpenter; born in France; diagnosis, ulcer of leg. Admitted to Cook Co. Hospital, Sept. 18th, 1876; discharged Jan. 1st, 1877. Recovered.

Last January, patient struck his left shin with the heel of

his right boot, breaking the skin. The abrasion increased in size, and finally became a large and deep ulcer.

On admission, we found a nearly circular ulcer, about three inches in diameter, situated over and to the left of the tibia, about the middle of the leg. The edges are ragged and everted; the vicinity of the ulcer much inflamed, and the surface composed of a large slough. Gives a history which indicates a syphilitic origin.

Removed the slough and ordered poultice.

Sept. 29th. The slough having separated, the dressing was changed to ceratum resinæ, and a bandage applied. The ulcer is now four by three inches.

Oct. 10th. The ulcer has undergone no change.

Patient is ordered to keep his bed, the leg is slightly elevated, and three small grafts are placed within half an inch of the outer edge of ulcer.

Oct. 10th, P. M. The surface is suppurating very freely; two of the grafts were washed off with the pus. They were replaced, and the surface left exposed to the air.

11th. Suppuration not so profuse. Grafts keep their places.

12th. The external cuticle of the grafts wrinkled. Cover the ulcer with oiled silk, and wash it twice daily.

13th. External cuticle washes off with the pus.

14th. Grafts are firmly adherent; a tooth-like projection is extending from the outer border of the ulcer toward the central graft.

16th. Projection referred to, has reached and become continuous with the graft. A second projection went through the same process.

23d. Suppuration has much diminished; the grafts and the skin from its edges are covering the ulcer rapidly.

26th. Transplanted a graft from a negro's skin upon the middle of the ulcer.

28th. The black, horny layer looks wrinkled, and is loosening.

29th. This morning it washes off with the pus, leaving the graft looking pink, but not as clear as white skin.

30th. Edges are closing in; grafts are enlarging.

Nov. 3d. Negro's cuticle is growing nicely, but presents, as yet, only a red color.

5th. Fungous granulations around the grafts are lightly brushed with argenti nitratis grs. v. ad aqua ʒi.

13th. Piece of negro's cuticle looks quite black.

31st. Ulcer has all healed over; the black graft remains black.

CASE II. H. Bell, aged 52; occupation, mason; native of Ireland; diagnosis, varicose ulcers of leg. Admitted to Cook County Hospital October 12, 1876; discharged Jan. 2, 1877. Recovered.

Patient has had varicose veins as long as he can recollect. Sixteen years ago a slight abrasion on his left shin was followed by an ulcer of two month's duration. Three years ago he had another at the same spot, which was soon healed. Last fall a third ulcer appeared on the outer aspect of the left ankle, and another on the inner side.

On admission, we find large, ill-conditioned ulcers around the left ankle. Applied ceratum resinæ on all but the largest, upon which two grafts from a negro's skin were placed, and covered with oiled silk.

Oct. 14th. Both grafts washed off with the pus, but were replaced.

Oct. 15th. Grafts adherent; horny layer wrinkled.

19th. Horny layer of grafts has fallen off; true skin is adherent; looks pink.

Ulcer closing in towards the grafts; very little suppuration.

Oct. 22d. During the night one of the grafts was pulled off by the clothes; the other is firmly adherent; looks blackish.

30th. Edge of ulcer has become continuous with the graft, which has grown about three-fourths of an inch. The original graft is as black as the negro's skin from which it was taken, and fades out towards the border. About three-fourths of an inch from the centre of the graft, the skin is as white as that of the patient.

(Reported March 19, 1877.)

ENCEPHALOID CANCER OF THE LIVER IN A CHILD.

By DR. C. J. LEWIS.

John A. Aet. 13; born in Sweden; came under my care Aug. 20, 1876. In April last this boy was kicked by an older brother in the right side, just below the short ribs, causing him to remain in the house for about a month. He was visited by a physician twice for this injury, and he so far recovered as to be able to attend school for a few weeks. There was slight ecchymosis at seat of the injury, a little general fever, and some tympanitis. About two weeks after the hurt, looseness of the bowels supervened, accompanied by vomiting. In the early part of July an eruption appeared on the face and back of the hands, unaccompanied with itching. His appetite was small from an early period of his illness; but he continued thirsty. During the latter part of July, it was observed that his abdomen began to swell.

I attended this lad through measles in July and August, 1875, he making a good recovery. He had been thinly clad and improperly and scantily nourished. *No history of cancer in the family.*

On examination, I found the skin of normal temperature, dry, having on the face, arms, upper part of the chest and shoulders a fine and quite closely studded papulous eruption of a yellowish brown color, and coming in crops. The abdominal subcutaneous veins were very much enlarged. The pulse 105, small, compressible; the central portion of the tongue was coated with a brownish fur—tip and edges smooth and red; the bowels moving from eight to twelve times daily, mostly at night; urine scanty and of high color; appetite small, with some thirst. He was in bed—decubitus dorsal, with his lower extremities extended; was small in stature, having a careworn expression. His sleep was broken by his frequent stools, which at times were watery, light in color, at other times dark and grumous. There was a tumour filling the ab-

domen from the navel upward into the chest, and extending on the right side down to the pelvis. It was not tender nor adherent to the abdominal wall, but firm and immovable on under side. This was regarded as an enlarged liver. From the coppery color of the eruption, together with the scaly desquamation of the epidermis, the tumour was looked upon as having a syphilitic origin.

Aug. 22d. Has been easier since my first visit than for several weeks; vomits but little; the diarrhœa is lessened; skin moist; tongue is cleaning; pulse 85, with no perceptible change in the tumour.

Aug. 26th. Has taken no medicine for nearly two days, and for about a day and a half, the stools have been frequent, the vomiting urgent; pulse 120, very small; has had but three hours sleep in two days. I now suspect cancer of the liver.

Sept. 7th. Since the above report, he has not suffered much from pain; the stools—three to five daily—have generally been of a light brown color, although occasionally one would be like dark coffee-grounds; his sleep has been fair; pulse 84; but the tumour is evidently enlarging, and having now some liquid effusion in the abdominal cavity. Dr. J. R. Buchan saw the patient this time with me, and he also regards the disease as malignant.

Sept. 10th. The patient has taken but a few doses of medicine since the 7th inst., alleging as a reason that it "burned his stomach." Since the omission of the opium, the pain has been more or less severe all the time, with occasional spells of excruciating pain. I now ordered grain doses of powdered opium at such intervals as to allay pain.

Sept. 16th. He has been kept under the influence of opium since the 10th inst., and is so now. Whenever the effects of the opium were allowed to pass off, the pain would return, vomiting would soon ensue, with frequent stools. His pulse is 112 per minute, and a mere thread. His appetite has failed and he is rapidly sinking.

He at no time evinced much tenderness in the tumour on pressure. The emaciation was extreme. Severe or more or less constant pain was complained of, only during the last two weeks of his illness. Death relieved him on the 19th inst.

Autopsy 23 hours after death.

I was assisted in the autopsy by Drs. A. B. Strong, J. R. Buchan and F. B. Eisen Bockius. The organs in the abdominal cavity were examined and found in a normal condition, excepting the liver—which specimen is here presented. The liver was somewhat nodulated and doughy to the feel. The anterior surface presented a mass of yellowish white granular tissue, having but little of normal liver appearance, and the mass occupied nearly all of the abdominal cavity. The right lobe extended to the left of the median line, strongly pushing the pancreas against the spinal column, and terminating in a heart-shaped cyst. The left lobe extended well down into the pelvic cavity. The weight of the liver is six pounds and ten ounces, (avoird.). It was adherent to the underlying tissue by ligamentous bands along its entire dorsal side. To the naked eye, the posterior surface had no encephaloid granules, excepting the three cysts:—two under the right lobe and one under the left. These cysts were round or oblong, and about 2½ in. in diameter, containing fluid and adherent to the liver. The gall-bladder was distended with a thick, dark fluid. The gastric, pancreatic and renal veins were greatly enlarged and full of dark blood; so also were the vessels supplying the structure of the liver. The appearance of the liver on section was similar to that presented by fresh suet. A specimen was left with Dr. Danforth for microscopic investigation.

Microscopy.—The specimen left with me presented very clearly the usual appearances of encephaloid cancer. A luxuriant cell growth, presenting an almost endless variety of cells, as regards form and dimensions—in fact, the "atypical" cells of the malignant new formations;—together with the usual number of fat globules, fatty granules and degenerating hepatic cells, which gives a very complete picture of encephaloid cancer as it commonly occurs in the liver.

Two points in the case seem to me especially worthy of attention. *First:* the fact that the liver was the only organ or part invaded by the disease. It is comparatively rare that we find encephaloid cancer confined to any one part or organ, simply on account of the facility with which it is dissemi-

nated. "In some instances, the liver is the only organ infected with cancer, or is the organ *in which the cancer originated;* but far oftener the formation of cancerous tumors in it, is consequent on cancer of some other part, especially the stomach and the breast." (Budd, "Diseases of the Liver," p. 394.) On the other hand, Rokitansky says, "Carcinoma of the liver is a disease of much greater importance, than tubercular depositions, as it occurs very frequently and is often a primary affection. (Path. Anat. II., p. 121.) This seems to imply that hepatic cancer is by no means a rare disease in Rokitansky's experience, but such is not the experience of pathologists in this country. A second point of interest is the age of the patient. I think it will be generally agreed that primary cancer of the liver—or indeed of any organ—is rarely seen in childhood. I. N. D.

A CASE OF LEUCOCYTHÆMIA.

By DR. ALBERT E. HOADLEY.

Mrs. D. Of Irish birth; aged about 35; married.

I first saw her Dec. 17th, 1874. I was called to control nasal hemorrhage, which had been very obstinate and almost continuous for three days, and would not be controlled by ordinary means. Four physicians had been in attendance before I was called, but none of them attempted to plug the posterior nares, which treatment I resorted to and accomplished without delay or difficulty, and the bleeding stopped. From this time my patient lay in a semi-conscious condition; pulse very soft and rapid; tongue very pale, dry and clean, and the only nourishment that she could be induced to partake of was new butter-milk, which she was allowed to use in large quantities—from four to six quarts a day. At this time her death was looked for every day, and on the fourth day her condition was no more favorable than on the first day of my attendance, (the 17th); but on the 22d she was up and dressed, and by the 25th had washed nearly every washable article in the house, as

they had all been soiled with blood; and on the 1st day of January, 1875, she walked more than a mile. She looked well and said that she never felt better; her appetite from the 25th was ravenous, and raw onions was her favorite article of food. The only medicines used were tr. ferri mur., alternated with Quiniæ Sulph. I lost sight of her, until April 21st, 1876, when she again sent for me. I found her bleeding from the nose as before, (she said she had been getting gradually weaker for the past six weeks when the hemorrhage again commenced); but as the bleeding was slow and only of three or four hours' duration, I endeavored to control it without resorting to the nasal plug. So I employed the nasal douche, with a very strong solution of alum, and afterwards Monsels' solution of iron by injection, and at the same time giving fl. ex. ergot with the glycerole of gallic acid; but the bleeding would not be controlled after 24 hours diligent use of these means; so the plugs were again resorted to, which was effectual, and then followed the same train of conditions, and the same treatment first described; and May 1st, 1876, my patient was again on her feet, able to walk and work. But this was of short duration, for in a few weeks she again began to decline, and on the 9th of October she again went to bed and was very low, and for four weeks was not expected to live from one day to the next. Subsequently she recovered a little strength, her digestive power improved, and she was able to be about, though quite unable to endure any considerable exertion or excitement, but this apparent improvement was of brief duration.

She again went to bed on the 22d of Dec., 1876, and sank rapidly; on the 25th, she had a large passage of blood from the bowels—at least a quart—and on the next day a similar passage, but less in quantity. There was no positive pain, but a sense of fullness in the region of the spleen and over the stomach, with marked tenderness on pressure. She also had an uncomfortable sensation about the heart, with an anæmic murmur. From the time of the second passage of blood from the bowels, she sank rapidly, suffering greatly from dyspnœa, and died on the 29th of Dec., retaining her mind clear to the last.

The post mortem, made twenty hours after death, showed the lungs, the entire alimentary canal and the genital organs to be in healthy condition. The heart was soft and considerably dilated, with its muscular tissue thoroughly infiltrated with fat. The liver was at least one-third larger than normal, and there was also fatty degeneration well marked; the clear fat globules could readily be discerned with the naked eye.

The spleen was enlarged to three or four times its normal size, and on section presented an intensely engorged condition,—almost black in color,—and there oozed from the cut surface a dark, dirty-looking, bloody serum. The kidneys were very nearly normal in size, but on longitudinal section the cortical substance that approached in color and appearance to health was about one-eighth of an inch thick; the rest of the kidney was as yellow as fat could make it, and the pelvis of the kidney was the seat of several little masses of fat, each the size of very small peas. Upon the exterior of the body there was a fair amount of adipose tissue; it was fully one-fourth of an inch thick upon the abdomen.

Dr. Danforth will append the microscopy of this case.

Microscopy.—The white blood corpuscles were largely in excess; many of the red corpuscles were shriveled, crenated, or otherwise deformed. The muscular tissue of the heart had undergone fatty degeneration, so that in some places the sarcolemma seemed to be filled with granular debris; other fibres were in the incipiency of fatty degeneration—that is, in the stage of so-called "cloudy swelling," while a few could be seen which were scarcely affected. The fatty change was evidently the result of a process of slow starvation, since there was no organic structural lesion of its valves, or of the great vessels. The tubuli of both kidneys were very extensively degenerated, the epithelial cells being loaded with fat and granular matter. I have no doubt that a more complete microscopic examination of the tissues of the body would have developed quite generally the degenerative changes which usually follow prolonged mal-nutrition. I made several ante mortem examinations of the patient's urine, and on each occasion found albumen abundant, and a profuse deposit of granular casts and fat-bearing epithe-

lium. It may, perhaps, be fairly questioned which was the primary disease, leucocythæmia or morbus Brightii; but the question cannot now be authoritatively answered.

I. N. D.

MENINGEAL AND PULMONARY TUBERCULOSIS IN AN ADULT.

By DR. J. H. WM. MEYER.

[House Physician to Cook County Hospital.]

Ellebert Leganger, a Norwegian silversmith, was admitted Dec. 16, 1876, suffering from tuberculosis and chronic pleurisy. While delirious, patient destroyed the record of his case.

An examination was made six hours after death, which occurred, Feb. 17, 1877. The right pleural cavity was found to contain about 3 quarts of light yellow fluid; the pleura was much thickened, and presented several strong bands of adhesion; the right lung was compressed to about one-third its normal size, and thickly studded, from apex to base, with miliary tubercles; there was a small cavity in its apex.

On the left side, the two layers of pleura were adherent throughout; the left lung also was completely filled with miliary tubercles. The dura mater, arachnoid and pia mater were greatly congested; arachnoidean cavity contained a very small amount of liquid. There was also a slight serous effusion into the ventricles.

Found a deposit of semi-transparent, gray tubercles along the course of the vessels, especially on the convex surface of the hemispheres; there was a similar deposit, slight in amount, at the base; vascular turgescence of the cerebral tissues, shown by the increased size of the puncta. A specimen of the lung tissue was submitted to Dr. Danforth for microscopic examination.

Microscopy.—The most prominent feature revealed by the microscope was the hypertrophied condition of the intervesic-

ular connective tissue, and the general infiltration in the small, shrivelled, irregular cells. In many instances, these cells were filled with pigment, and these pigmented cells were arranged in dense groups, or else stretched out into continuous lines or columns. In some places, they formed a continuous ring, surrounding the air vesicle, and infiltrating the intervesicular connective tissues. The air vesicles were pretty generally deprived of their epithelium, but they were stuffed with a luxuriant crop of rather small, irregular, imperfectly formed cells.

The tunica adventitia of the blood vessels was thickened, and the arteriolæ were abnormally tortuous. I. N. D.

SCIRRHUS OF THE COMMON BILE DUCT.

REPORTED BY DR. NORMAN BRIDGE.

H. R. P., aged 65 years, American, a railroad conductor, a man of robust appearance; health generally good until the beginning of his last sickness. He was a good liver, and had, perhaps, as a consequence, an occasional diarrhœa. He had an erysipelas of the hand several years before death. An older brother died at 72 years of age, with cancer of the bile duct at the neck of the gall bladder.

His parents died of disorders not malignant, his mother from abscess of the lung following facial erysipelas.

Two and a half years before Mr. P.'s death he began to have spells of weakness and langor, at which times he would express himself as feeling that his "work was about done." These spells were of brief duration, and continued until one year before his death, when (spring of 1874) he caught cold and had some kind of a fever. He only partially recovered, was unfit for work, and lost flesh. He had pain frequently in the region of the liver and in the back. In August he went to Michigan for a visit of six weeks. While there he became deeply yellow with icterus—a condition that remained until his death. From November 1st, he was confined to his room.

He grew steadily weak and emaciated; anorexia was extreme; he would not eat—food appeased him and gave a feeling of distension of the stomach. There was no vomiting until within a week of his death, when it occurred frequently. A subjective feeling of enlargement of the liver had existed many months. A few weeks before death—and when the case fell into the hands of Dr. E. Ingals—there had appeared a considerable tumefaction in the liver, chiefly at the location of the gall bladder. By the localized prominence of the tumefaction, and by fluctuation, the mass was suspected to be an abscess. A day or two before death, however, a large quantity—one or two quarts—of bile and mucus was vomited, when the tumor was found to have disappeared. Death occurred May 3d, 1875.

The writer assisted Dr. Ingals in making a necropsy. The liver was somewhat enlarged and full of bile, that oozed from its cut surfaces. The gall-bladder was partially filled with bile having the usual appearance. A hard tumor, roundish, and not more than three-fourths of an inch in diameter, was attached to the common bile duct on its posterior aspect, and just above its entrance into the bowel. It appeared to have begun in the wall of the duct or the cellular tissue, just outside of it, and it had so encroached upon the lumen of the duct that it was with difficulty a small probe could be passed through the canal. The mass pressed slightly upon the duodenum, but it did not constitute an obstruction of that canal.

The other organs were normal. The tumor was found, on microscopic examination by Dr. Danforth, to be a scirrhus cancer.

Reported in June, 1875.

Selections.

SCLEROSIS IN SCATTERED PATCHES. BY PROF. CHARCOT, PARIS. TRANSLATED BY THOMAS OLIVER, M. B., PRESTON, WITH M. CHARCOT'S PERMISSION.

PART III. *Apoplectiform Attacks in Sclerosis in Patches — Periods and Forms — Physiologico-Pathology — Ætiology—Treatment.*

I purpose to-day to call your attention, in the first place, to certain cerebral accidents which may arise and complicate the symptomatology of cerebro-spinal sclerosis in patches. The accidents in question are *apoplectiform attacks*, which sometimes occur repeatedly, and which occasionally terminate fatally. These attacks have not as yet occurred in Miss V., whose clinical history is otherwise so complete in many other respects; but nothing justifies me in affirming that they will not happen some day. Indeed, it is not a rare complication: I find it pointed out in about a fifth of the cases that I have collected, and I myself have, personally, observed it at least in three.

The aggregate of symptoms which characterize the attacks in question do not belong properly to multilocular sclerosis. They present themselves in a number of diseases which affect at once several points of the cerebro-spinal axis—in particular, progressive general paralysis. It is even in this last disease that *congestive attacks* (this name usually serves to designate them, at least in France) have been particularly studied in proportion to their frequency. In these attacks we meet them under the rather various forms which they may assume. Accordingly, the description of these attacks in progressive general paralysis has occasioned numerous divisions and subdivisions. But, in short, all the varieties of form which clinical observation has brought into notice (and here I only wish to consider attacks of some intensity) may be reduced, if I am not mistaken, to two fundamental types, that is—1*st*, *Apoplectiform attacks* (*pseudo-apoplexy* of English physicians);

2nd, Convulsive or *epileptiform attacks.* The characters of the two types may also be intermixed and confounded in the same attack. Only the first type has been met with, until now, in sclerosis in patches; but there is no doubt that observations relative to this affection, by being repeated, will one day enable us to complete the picture.

Among the other organic diseases of the nervous centres in which we frequently observe epileptiform or apoplectiform attacks, I shall confine myself to particularize certain old *focalized* cerebral lesions, accompanied by permanent hemiplegia. Such are *cerebral hemorrhage* and *softening of the brain*, when they have occupied regions of the encephalon, the lesion of which has for its immediate consequence an almost certain determination of cerebro-spinal affections, known under the name of *descending fasciculated sclerosis.*

Between these partial lesions of the brain and progressive general paralysis it seeems, at first sight, as if there existed no point of contact. Here is, however, a character which brings them into relationship; the observations of M. Magnan and those of M. Westphal have shown that, in general paralysis, there is very often superadded to the lesions of periencephalitis a sclerotic degeneration, sometimes diffused, at other times fasciculated, which occupies at once the cerebral peduncles, the protuberance, the bulb, and certain regions of the spinal cord. Now, these cerebro-spinal lesions, as much from their mode of distribution as by the very nature of the morbid process, deserve to be assimilated to the descending fasciculated sclerosis consequent upon hemorrhage or softening of the brain. We know, on the other hand, that, in multilocular sclerosis, the sclerous patches occupy not only the spinal cord and the brain properly so-called, but, moreover, very generally various parts of the isthmus of the brain, and, in particular, the bulb. You see from this that the existence of irritative lesions scattered slightly everywhere in the cerebro-spinal axis, but always present in the isthmus, is a character common to all the affections, so dissimilar in appearance, to which are superadded the attacks called *congestive.* I shall draw your attention specially to the constant existence of bulbar lesion, which, in all likeli-

hood, is a predominant element in the production of these attacks.

Be that as it may, the case before us is one of permanent degeneration of a slow and progressive development. It consequently cannot explain, without the concurrence of other lesions, the development of accidents which are produced, as a rule, almost suddenly, and which may disappear very quickly without leaving any trace. I am aware that many physicians, even at the present day, represent as supervening here a partial sanguineous congestion, a fluxion which, according to the necessities of the cause, would affect such and such a part of the brain; I cannot, for my own part, subscribe to this hypothesis. To justify my scepticism in this regard, I would at first appeal to the memory of those among you who are attached to the service of the lunatic asylum. How many times have they not been disappointed in not meeting at the autopsy the congestive lesion on which they had reckoned? But I will appeal particularly to the observations which I have been able to collect in the usual sphere of my labors. Many a time I have seen patients die in consequence of attacks, either epileptiform or apoplectiform, who had been affected for a long time with hemiplegia from the fact of softening of the brain or intracranial hemorrhage. Well, in such a case, whatever attention I paid to the autopsy, it has always been impossible for me to discover, either in the nervous centres or in the viscera, a recent congestive or œdematous lesion, or any other capable of explaining the grave symptoms which had marked the fatal termination: I have never met with anything but old lesions—ochreous foci, yellow patches or centres of cellular infiltration— on which depended the hemiplegia and the secondary degenerations of the mesencephalon and of the cord, which are the consequences of these partial lesions of the hemispheres. I believe, in short, that in the actual state of science the absence of proper lesions is, anatomically speaking, a character common to those attacks, whatever may otherwise be the form which they affect and the disease with which they are connected.

As regards the symptomatology of the apoplectiform and

epileptiform attacks, (in order not to enter into the details of a regular description) I shall limit myself to the mention of the following particulars. The scene, in general, opens unexpectedly, without very marked antecedent symptoms; sometimes by a rapid and more or less distinct clouding of the intellectual faculties, and sometimes by deep coma supervening suddenly. There are added to this, in certain cases, convulsions which remind you of those of ordinary epilepsy, but which are nevertheless localized, as a rule, to one side of the body (*epileptiform attacks*). At other times, the convulsions are wanting (*apoplectiform attacks*). In both cases we frequently see developed from the beginning a more or less complete hemiplegia, sometimes with flaccidity, sometimes, but more rarely, with rigidity of the paralyzed limbs. The symptoms may abate progressively in the space of some days, and yet lead to death. This is announced in general by the rapid development of eschars in the sacral region. If, on the contrary, the patient is to survive, the disappearance of the accidental symptoms is not long in ensuing; the hemiplegia is the only symptom which persists still for a time, but it disappears, sooner or later, without leaving any trace.

The attacks are usually reproduced several times, generally after long intervals, during the course of the disease. As far as regards sclerosis in patches, they have been noted three times in the observation III. in the memoir of M. Vulpian, three times in the recorded observations of Zenker, and even seven times in that of M. Leo. These fits have always left behind them a notable and persistent aggravation of all the symptoms of the primary disease.

The sketch which I have just presented to you would be too imperfect, if I did not draw your attention to the disturbances of the circulation and of the temperature which, as a general rule, are manifested in the course of the attacks. The *pulse* is found always more or less accelerated; but, moreover (and

1 A temperature of 38° C. is subfebrile, and is equivalent to 100.4° F. A moderately febrile state would be indicated by a temperature of 39° C. (102.2° F.). 40° C. (104° F.) indicates a highly febrile condition. Temperatures above this level are hyperpyretic, and are usually dangerous to life, *e.g.*, 42° C. (107.6° F.).

this is the important point), the *temperature* of the central parts rises rapidly: it may, in the short time closely subsequent to the invasion, reach 38° C., or even 39° C[1]. Frequently, at the end of twelve or twenty-four hours, it rises up to 40° C., and maintains itself at this figure for some hours without any material alteration in the condition of the patient. But if the patient is to survive, the temperature soon rapidly decreases. A figure above 40° C. almost always brings on the fatal termination.

These modifications of the central temperature have been studied by M. Westphal in the epileptiform and apoplectiform attacks of *progressive general paralysis:* I have found them in the attacks which supervene in the case of patients affected by old hemiplegia consequent upon hæmorrhage, or softening of the brain. In order to give you more definite ideas upon this subject, I think it useful to present to you very briefly the details of two observations relating to cases of the last kind.

The first observation has reference to a woman aged thirty-two years, affected with a hemiplegia of the right side, dating from infancy. There was general atrophy, rigidity, and shortening of the limbs, and paralysis, as is generally seen in such cases. This woman was subject to epileptiform attacks. She was brought to the Infirmary some hours after the beginning of an attack more intense than usual. On the very evening of her admission the temperature was beyond 38° C., and on the following day it had reached 40° C. The fits became subintrant: they were repeated about a hundred times a day. Eschars rapidly formed in the sacral region, and death supervened on the sixth day. The thermometer introduced into the rectum stood that day at 42.4° C. At the autopsy we found on the surface of the cerebral hemisphere of the left side a considerable depression, corresponding to a yellow patch, the vestige of a vast focus of softening. The hemisphere was besides atrophied throughout. We were unable to discover any trace of a recent lesion either in the nerve-centres or in the viscera.

The second case is that of a woman of sixty-one years of age,

affected with right hemiplegia, consequent upon a cerebral hæmorrhage of two years' date. This woman had already experienced several epileptiform or apoplectiform attacks, otherwise *generally rather slight.* Two hours after the commencement of the symptoms, the temperature taken in the rectum was 38.8° C.—five hours later it rosè to 40° C. On the following day, in spite of the cessation of the convulsions, the temperature was 41° C., and on the day after that (the day of death) it reached 42.5° C. Two ochreous masses were discovered at the autopsy, the one seated in the corpus striatum, and the other in the substance of one convolution There existed no recent lesion capable of explaining the symptoms which had determined death.

It has not yet been granted me to follow day by day, and at various periods of the day, the evolution of the temperature in a case of *apoplectiform attack* supervening in a patient affected with *sclerosis in patches.* Nevertheless, we can gather from several observations partial results, which leave no doubt that, even under this point of view, things proceed in multilocular sclerosis exactly as in progressive general paralysis, and in cases of focalized lesions of the hemispheres. Thus the patient, whose history has been reported by Zenker, was seized towards the end of his life by an apoplectiform attack, followed by hemiplegia of the right side of the body. On the day of the attack, the pulse being 136, the temperature reached 39·6° C. On the following day the thermometer marked 40° C., and on the day after this the paralysis had improved, and the temperature again fell to the physiological standard. In the patient Nolle, recorded by M. Leo, an apoplectiform attack declared itself during the evening. Early on the following morning the pulse was 144, and the temperature was 38.5° C. This attack, the seventh which the patient had experienced, was destined to terminate in death during the night. In the case of N., whose history has been recorded, in my service, by M. Joffroy, five hours after the invasion of an apoplectiform attack, with incomplete loss of consciousness and general relaxation of the limbs, the rectal temperature was 40·3° C., and the pulse 120. On the following day the

apoplectiform symptoms had disappeared, and, at the same time, the pulse as well as the temperature had returned to the normal state.

If I have dwelt at some length upon the modifications which the temperature undergoes, in the apoplectiform and epileptiform attacks of general paralysis, and of some other cerebro-spinal affections, it is because, in my opinion, we find in them a character which can, in certain cases, be turned to profit in the diagnosis. It is not necessary, I think, to enter into long details to show how difficult it is in presence of a patient who has just been struck with apoplexy, with or without accompanying convulsions, to decide in accordance with the mere consideration of external symptoms, whether it is a case of *true apoplexy*, resulting from the actual formation of a cerebral clot from hæmorrhage or from softening, or, on the contrary, from a simple *congestive attack*. Now, the examination of the temperature of the internal parts would furnish in such an occurrence a fact decisive of the case. Indeed, I have demonstrated by repeated observations that in true apoplexy, principally when it is connected with cerebral hæmorrhage, the temperature constantly falls soon after the attack, and is maintained, generally during twenty-four hours at least, below the normal rate, even when there ensue and are repeated intense convulsive fits. Now, we have just seen that in the attacks called congestive, the temperature, on the contrary, rises from the commencement of the first symptoms beyond the physiological figure, and tends still to rise progressively during the fit.

Periods and Forms in Sclerosis in Patches.

After having considered one by one the various elements which compose the symptomatology of multilocular sclerosis when there is question of a complete case, and one which has already reached an advanced period of its course, it is expedient to show by a general survey how these elements are grouped together and connected with the various phases in the different forms of the disease. This latter does not present itself actually—far from it—clad in all its attributes at every epoch of its development. At the commencement, it may be

constituted only by the union of two or three symptoms, and, besides, there are cases in which up to the fatal termination, the delineation of the symptoms remains incomplete. Now, it is especially when the disease is still at a period near its commencement, or when it takes on an imperfect form, that it would be of consequence to be able to recognize it by the smallest indication.

I have proposed, in the progressive development of the malady, three periods: the first extends from the moment at which the earliest symptoms appear, up to the time when spasmodic rigidity of the limbs reduces the patient to an almost absolute impotence. The second comprises all the time (generally very long) during which the patient, confined to bed, or hardly able to take a few steps in his room, preserves, nevertheless the integrity of his organic functions. The third, in fine, commences at the moment when, at the same time as all the symptoms of the disease are aggravated simultaneously, the functions of nutrition suffer in a perceptible manner. *Apropos* of this last period, there will be occasion to notice the accidents which, in the usual order of things, mark the last period of the disease, and precipitate the fatal termination.

I. First Period.—The mode of invasion and the linking of symptoms present various aspects, which deserve to be pointed out to your special attention.

Sometimes it is cephalic symptoms which open the scene: thus, the patients begin by complaining of habitual vertigo, of diplopia more or less transient; gradually embarrassment of speech appears, and finally, nystagmus. The union of these symptoms would compose a group already characteristic enough, and one, which, even when the trembling caused by movements and the paresis of the limbs do not come sooner or later to be united with it, would yet allow of the diagnosis being established upon strong presumptions.

But such is not the commonest mode of invasion; most frequently it is the spinal phenomena which first appear; so much so, that during several months, and sometimes even several years, the patients may present no other symptoms than a weakening, a paresia, more or less marked, of the lower

limbs, tending to become aggravated in a slowly progressive manner, and to be extended to the upper limbs. In such a case, the situation of the clinical observer is necessarily one of the most difficult. For, to sum up, the paresia of the lower limbs is a very ordinary symptom, and one common to a number of various affections. It presents itself, however, in multilocular sclerosis, as you know, with some peculiar traits, which might perhaps point out the way. Thus, however marked it may be (setting aside the exceptional case in which the lesion would predominate in the posterior columns,) it is not accompanied by any disturbance of the sensibility, nor any appreciable change in the nutrition of the muscular masses; besides, there is ordinarily connected with it no functional disorder in the bladder or the rectum; in fine, it is not rare to see remissions produced, nay, even complete intermissions which have afforded grounds to hope for an ultimate cure. But it is clear that these indications, even with the concurrence of all the others, can only furnish information of rather a vague description. Certainty can hardly be attained, except where the special trembling, or some one of the cephalic symptoms, comes to be superadded to the spinal symptoms.

Thus far have I presented to you the invasion and the ulterior concatenation of accidents as slow and uniformly progressive. That, in effect, is by far the most frequent case; but it is important that you should know that, in certain circumstances (exceptional, it is true), the commencement may appear suddenly, unexpectedly, or be consequent upon some comparatively insignificant premonitory symptoms.

Thus the vertigo and diplopia having suddenly declared themselves, the paresia of the limbs and the stumbling may have been superadded to them at the expiration of some days, so that the malady is found, so to speak, at once established. This is what took place, among others, in the case of a young patient, Mlle. Vinch, whom some of you may have seen in our wards. At other times the beginning is marked, as in one of the patients of Valentiner, by a sudden invasion of paresia in one of the lower limbs; or, again, as in the case of M. Leo, and in one of my patients, whose history M. Vulpian has re-

ported, an apoplectform attack, preceded for several days or several weeks by vertigo and cephalalgia, and followed by temporary hemiplegia, inaugurates the illness.

Lastly, there is a case to which I will again call your attention, and in which the beginning is marked by an affection which is most frequently considered accidental and extraneous to the leading malady, though, in my opinion, on the contrary, it is really connected with it by a link not recognized till now I allude to *gastric* or *gastralgic crises* (whichever you may choose to call them), which are sometimes intense, and accompanied by lypothemia, repeated vomiting, etc. They have several times opened the scene, and soon the usual symptoms of multilocular sclerosis have followed; besides, it is not unusual to see them re-appear at several successive periods, and be intermingled with the symptoms during the first periods of the disease. In this class, a case published by M. Liouville, and that reported by M. Zenker, are good examples to quote. These accidents are so much the more worthy of notice, as we shall find them again with almost the same characters in other forms of sclerosis of the spinal cord, and, in particular, in posterior fasciculated sclerosis (*locomotor ataxy*), chiefly, however, in the initial phase of this affection. The gastric crises, coinciding, or alternating with sudden flashing pains of the limbs, may be, in such a case, with diplopia, and perhaps a little titubation when the eyes are closed, the only actual symptoms of the disease in question, whose real character is at that time too often not recognized. These same gastric crises are met with, as we have observed (M. Duchenne, of Boulogne, and myself), in the form of *central subacute* or *chronic myelitis*, which produces the symptoms of *general spinal paralysis*. But I do not wish to dwell longer on this subject, which I expect to resume soon, and to give to it all the developments of which it is susceptible.

II. Second Period.—In general, from the end of the first period, multilocular sclerosis presents itself already marked by most of the symptoms which characterize it. These symptoms are aggravated and intensified during the second period, and there is superadded to them the spasmodic contraction of

the limbs, with or without the accompanying spinal epilepsy, in consequence of which the patients, who had till then been still able to walk more or less effectually unaided, find themselves thereafter reduced to an almost absolute impotence, and confined ultimately to their room, or even their bed. The contraction which characterizes the commencement of this period is a phenomenon almost always slowly developed; it hardly ever shows itself, in general, until two, four, or six years after the appearance of the first symptoms of mutilocular sclerosis.

III. Third Period. — The commencement of this last period is marked, as I have told you, by progressive weakening of the organic functions; want of appetite is habitual, and diarrhœa frequent, and soon there supervenes a general emaciation, which becomes more and more evident. At the same time, there is an aggravation of all the symptoms peculiar to the disease: the clouding of the intellect proceeds even to imbecility; the embarrassment of speech is carried to its height, and the patient no longer expresses himself except by an unintelligible grunt. Then the sphincters are paralyzed, and it is not unusual to see the mucous membrane of the bladder become the seat of an ulcerative inflammation. It is then that appear in the sacral region and on all points of the lower limbs submitted to prolonged pressure, eschars, which sometimes assume enormous proportions, and consecutively all the series of accidents which are connected with this complication, such as purulent inflammatory foci, purulent or putrid poisoning, etc. Death soon ensues.

Most frequently life is still abridged by the intervention of some intermittent malady. Pneumonia, caseous phthisis, and dysentery may be reckoned on as amongst the most frequent of these terminal affections.

I have reserved, so as to mention it in quite a special manner, the appearance of some symptoms of *bulbar paralysis*, because they may, by becoming aggravated, precipitate the course of events, and bring on a fatal termination, even before the phenomena of the last period have manifested themselves. At the same time, as the speech becomes more and more diffi-

cult, there is produced, in the first place, a difficulty of deglutition, which, transitory at first, soon becomes permanent. Then from time to time, there occur fits, more or less serious, of dyspnœa, and death may take place in one of these attacks. I have observed quite recently two cases which terminated in this way. At the autopsy, we recognized in both that a patch of sclerosis had invaded the floor of the fourth ventricle, where it united the points of origin of most of the bulbar nerves.

After the details into which I have just entered, it appears to me useless to undertake the particular description of the various *forms* that multilocular sclerosis may put on. The *cerebral* and *spinal* forms correspond to an incomplete invasion of the nerve centres by sclerosis; it is, if you like, the disease arrested in its development, in its progression, whether ascending or descending. The symptomalogical series is, so to speak, curtailed by it; but the symptoms, considered singly, are not on that account modified. The first form is very rare, the second frequent enough, on the contrary. The *cerebro-spinal* form, however, represents the normal type, and it is it we meet with most frequently in the clinique.

Cerebro-spinal multilocular sclerosis fully accomplishes its total development in the space of from six to ten years: that forms a new contrast with paralysis agitans, whose normal duration is much longer. The spinal form usually allows more respite; it may terminate only at the end of twenty years, or even at a still later period.

Physiologico-Pathology.—Etiology: Prognosis and Treatment.

To finish this study, it remains for me to speak of the physiologico-pathology, etiology, and treatment of multilocular sclerosis of the nerve-centres. Unfortunately, the documents which I shall be able to appeal to, relative to these various points, are few in number, and imperfect, too, for the most part. I shall be compelled in consequence to lay before you very summary remarks.

The reason of the very singular mode of distribution which the sclerous islets affect in the various parts of the central

nervous system is to us till the present completely unknown. Rindfleisch has affirmed that the point of departure of the formation of sclerotic foci is in the vascular system. According to him, inflammation of the walls of the little vessels which we meet with always at the centre of the patches in course of formation is the initial fact: from this central part the irritation is propagated to the reticulum of the neuroglia, and radiates in all directions. Evidently that would be again only staving off the difficulty. Besides, this predominant part accorded to the vessels in the evolution of the morbid process is anything but demonstrated. I am very much disposed to think, in accordance with my own observations, that the degenerations of the vessels, and those of the recticulum, advance *pari passu* in a parallel manner, and without influencing each other.

Be that as it may, given the seat of sclerous islets in the various departments of the nerve-centres, can we deduce from that the production of symptoms of which the aggregate constitutes the symptomatology of sclerosis in patches? It is possible, at least in part. We have already remarked that the want of motor co-ordination, the loss of knowledge of position, and the flashing pains which are observed in a certain number of cases, may be, in these cases, referred to invasion of the posterior columns of the spinal cord. On the other hand, the habitual predominance of the patches of sclerosis on the passage of the antero-lateral columns, accounts, as I will demonstrate to you soon, for the almost constant existence of the paresia or paralysis of the limbs, followed sooner or later by permanent contraction. Nystagmus and embarrassment of speech are in connexion with the habitual localization of the patches in the substance of the protuberance and bulb. But a great number of other symptoms are more difficult of interpretation. Such is, amongst others, the peculiar tremor which shows itself in certain attitudes of the body, and in the exercise of voluntary movements. I have expressed the opinion that the protracted persistence of axis-cylinders, when deprived of their sheath of myelin in the midst of the sclerotic foci, plays perhaps an important part here: the transmission of voluntary

impulses would still be effected by way of these denuded cylinders, but it would take place in an irregular spasmodic manner, and thus would be produced the oscillations which disturb the execution of intentional movements.

This resistance of the axis-cylinders is certainly not a phenomenon exclusively peculiar to multilocular induration, but it shows itself there more marked than in the other forms of sclerosis of the nerve-centres. It may, however, be appealed to, I think, for the slowness with which the paretic symptoms progress in sclerosis in patches, and for the long space of time that elapses before the period in which they give place to complete paralysis and permanent contraction.

What we know concerning the conditions which preside over the development of sclerosis in patches reduces itself to very little. It appears established, however, from the present, that the disease is much more common among women than among men. Thus, among the cases which I have collected in my early studies, three or four only concern men. The facts which have been published since then have not modified in any sensible manner this result. By combining with the eighteen cases which figure in the monograph of MM. Bourneville and Guérard, sixteen new cases, we have a total of thirty-four cases, of which nine were men and twenty-five women.

From these same documents, it results that it is a malady of youth, or of the first half of adult age. We have observed it in subjects aged from fourteen, fifteen, and seventeen years. But it appears most frequently to commence between the age of twenty and twenty-five. It rarely appears after thirty years. The age of forty years seems to be, on the other hand, the last limit that people affected with sclerosis in patches can attain.

With regard to hereditary influence, we would have to cite only a single example, in which it would appear to have played a certain part. This example has been communicated to us by M. Duchenne (of Boulogne).

In the pathological antecedents of the patients themselves, we have in general only very vague indications. Hysteria

figures among them in some cases; but most frequently we find mentioned only neuropathic accidents of no marked description—migraine from time to time, or neuralgia.

Among the *occasional causes*, we find several times pointed out the prolonged action of moist cold. In one case, the first symptoms were developed soon after a fall.

But it is circumstances of a moral kind which are most commonly referred to by patients. Prolonged grief, for example, that, among others, which an illegitimate pregnancy may occasion; or, again, the unpleasantness and weariness which a social position more or less false entails, such as is often that of certain governesses. This is what concerns women. As for the men, the case before us is for the most part of unclassed people, placed outside of the general current, too susceptible and badly armed to sustain what we call, in Darwin's theory, the *struggle for life*. That is, in fact, a somewhat vulgar etiology, and which we find, so to speak, at the origin of all chronic diseases of the central nervous system.

The *prognosis* until now is of the gloomiest description. Will it always be the same? We hope that when the disease is better known, the physician will learn to take advantage of these spontaneous tendencies to remissions which are found prominently marked in a great number of cases. Besides, we must not forget that, for the present, the disease is in general only truly recognised when the lesions are already very profound, and nearly inaccessible to the influence of curative means.

After the preceding, shall I go on to speak to you at length on the therapeutics? The time is not yet come when this question can be seriously approached. I can speak to you only of a few trials made up till this day, and of which the results, unfortunately, have been in general not at all favorable.

Chloride of gold and phosphide of zinc appear to have rather exasperated the symptoms. *Strychnia* has sometimes made the trembling cease, but its influence has always been temporary. I shall say as much of the *nitrate of silver*. In several cases which I have observed, it appears to have had upon the trembling, and upon the paresis of the limbs, a very

favorable influence, but one which, in truth, has not been long maintained. A formal contra indication to the employment of this medicine would be the existence of permanent contraction, and, above all, of spinal epilepsy. The employment of silver nitrate would, in fact, almost certainly have for its result exasperation of these symptoms. *Hydrotherapia*, in one case, seems to have produced a transient impression; in another, on the contrary, it has completely failed.

Arsenic, *belladonna*, *ergot of rye*, and *bromide of potassium*, have been equally administered in sclerosis in patches without any marked benefit. I will say as much for the application of *faradization*, and of the employment of the *continuous current*. But, with reference to this last agent, it is important to have recourse to new experiments before delivering a decided opinion on the qustion.—*Edinburgh Med. Journal, Oct. and Nov.*, 1876.

Clinical Reports.

COOK COUNTY HOSPITAL.

MEDICAL DEPARTMENT.

CASES REPORTED BY J. H. WM. MEYER, M. D., (HOUSE PHYSICIAN).

Phthisis Pulmonum, Erysipelas, Meningitis.

H. Anderson, a Norwegian, cabinet-maker, aged 62, was admitted to the hospital, Jan. 26, 1877. He had long suffered from cough, and pain in his chest; expectoration of a thick, tenacious sputum, at first white, subsequently yellow; emaciation, night-sweats, and other features of consumption.

Physical examination revealed depression below right clavicle; diminished respiratory movement of that side; dullness, broncho-vesicular breathing, bronchophony, and increased vocal fremitus over the upper lobe of right lung. Appropriate treatment was ordered.

On Feb. 8th, there was apparent a red, glazed swelling of the face, presenting several blebs; tenderness to the touch; patient had been delirious the previous night. He was directed to take a saline laxative, and a powder containing quinine and opium; also to make a local application of camphorated oil. In the evening he was rational, but became delirious again during the night. On the following morning (Feb. 9), he was ordered the tinct. ferri chloridi, in half drachm doses, four times daily.

On the 11th, the redness was evidently fading; ung. zinci oxidi was substituted for oleum camph.

By the 13th, desquamation was well established over the entire face, but patient was almost constantly delirious.

Death occurred at 5 A. M., Feb. 15th.

An examination was made six hours after death.

On penetrating the skull and dura mater, about two ounces of serum escaped; the arachnoid was found to be covered with lymph; the pia mater injected; between the convolutions were shreds of lymph. The upper lobe of the right, and the lower lobe of the left lung were infiltrated with yellow, caseous matter.

Phthisis and Bright's Disease.

Ph. Conway, aged 27 years, cooper, was admitted, Nov. 15, 1876.

General health of patient has been good, till about three years ago. As far as known, there is no hereditary predisposition to consumption. Has not been in the habit of drinking to excess.

Three years ago last spring, he took cold, and had severe pain in the chest, extending through the shoulders. Six months later, he had a hemorrhage from the lungs, losing considerable blood. Expectorated blood, and coughed a great deal, at varied intervals, all that winter. He would expectorate about half a teacupful of blood at a time, but at one time lost about a pint. He steadily declined in health, till about two years ago, he was obliged to give up work. Appetite has been very poor; bowels generally costive. Had

night-sweats. Three months ago, patient noticed that he was making more than the normal quantity of urine, and the amount has increased up to the present time. He now voids during the night about a gallon of porter-colored urine. Has had for the last three months a heavy pain in the region of the kidneys. Drinks a great amount of water. Last June, his feet began to swell; if out of bed, the swelling would be greatest in the evening; while in the morning, the feet were smaller again.

No tumefaction has ever appeared in any other region.

On admission, patient very much emaciated; voice hoarse; face sallow. There is an anæmic aspect of the skin, and visible mucous membranes. The tongue is tremulous, and coated whitish. Appetite poor, but has great thirst; bowels costive, but has a frequent desire to urinate, especially at night.

Complains of pain in chest and back. Feet pit on pressure.

Examination of chest: over left upper region anteriorly, dullness on percussion with broncho-vesicular respiration, bronchophony, depression below the clavicle, and diminished respiratory movements on that side; some mucous râles.

Examination of urine shows S. G. 1003. Heat and nitric acid give deposit of albumen. Ordered ferri et quiniæ cit. gr. v four times a day, and cod-liver oil after meals.

Nov. 25th—Patient sits up in bed most of the time; he cannot breathe in the recumbent posture.

Dec. 15th—Complains of some diarrhœa. Ordered milk diet.

Dec. 25th—Vomits some; bowels are quite loose. He has no œdema, but is very thin.

Feb. 5th—Urine slightly acid, pale yellow, and viscid. After standing, a light, whitish, flocculent precipitate falls; copious deposit by heat and nitric acid.

Feb. 6th—Profuse diarrhœa. Ten passages last twelve hours.

℞ Plumbi acetatis.....gr. i.
Pulveris opii.....gr. j.

every four hours.

Feb. 13th—Died.

Feb. 16th—Could not make a complete post mortem, but managed to get the kidneys, which were small, smooth, weighing 8½3—one, 4⅛3; the other, 4⅛3. Capsule firmly adherent; on section, thickness of cortical substance diminished.

SURGICAL DEPARTMENT.

(REPORTER C. F. FENN, M.D.)

Urinary Fistula Opening in Scarpa's Triangle.

In the Surgical Clinic of the 14th March, Prof. Bogue presented an unusual case, on which he performed the operation of cystotomy for the cure of a urinary fistula, which had its external opening on the inner aspect of the thigh. The history of the case is briefly this: A man, 55 years of age, having a light occupation and previously good health, began to have more or less pain within the pelvis on the right side. Eventually there was a considerable discharge of pus from the bladder.

After several weeks of disquiet of this kind, a small tumor suddenly appeared in the right groin. Its development was from beneath Poupart's ligament, like that of a psoas abscess. It continued to grow and to descend until it reached the apex of Scarpa's triangle. When first examined, two months ago, there was a smooth fluctuating tumor four inches in diameter at the base, and an inch and a half in elevation. Its appearance was precisely that of a cold abscess, the surface having become red and inflamed from friction or from the uniform weakening of its walls. That this was a collection of pus from a distant source, seemed to be the only conclusion possible. When the tumor was lanced, urine, instead of pus, came forth. The walls of the cavity collapsed, and the punctured opening remained as the outlet of an urinary fistula. Observing the patient after this, it was found that the act of evacuating the bladder in the usual way occasioned also a flow

of urine through the fistula. If the bladder became filled at any time, the flow by the fistula was involuntary: but as long as any considerable accumulation of urine was prevented by frequently voiding the bladder, the flow of urine by the abnormal channel was limited to the time of micturition.

The operation of cystotomy was performed in order to allow the valvular opening or diverticulum to heal that must have been produced in the course of previous abscesses within the peri-vesical cellular tissue.

The operation resulted in the discovery and removal of a smooth ovoid calculus, weighing about one drachm, which was imbedded in an ulcerated cavity in the prostate gland.

PRIVATE SURGICAL PRACTICE.

CASES OF INTERNAL HÆMORRHOIDS—OPERATIONS BY THE CLAMP AND ACTUAL CAUTERY.

UNDER THE CARE OF JNO. E. OWENS, M. D.

CASE 6. Mrs. ——, aged 47 years, came under my care for internal hæmorrhoids, March, 1874. She is the mother of nine children, the last of which was born in September, 1872, and lived but a few days. This lady, in consequence of the rectal disease, had been for some years an invalid, and totally unable to attend to her household duties. Exhausting pain and hemorrhages rendered life itself burdensome. Frequently overwhelmed with gloomy forebodings, and always exhausted, she was absolutely compelled to withdraw from the society of a very large circle of acquaintances. Having had the professional care of herself and family for a considerable time, I took advantage of many opportunities during the last two years of her suffering, to induce her to submit to an operation for the radical cure of her disease. After very many so-called cures had failed, as they always do in such cases, she submitted to the operation. The first symptoms, preceded by a troublesome constipation, occurred about fifteen years ago, two months

after the birth of a child. Her parturition on this occasion was normal, and her "getting up" was good. Exercise and cold increased her suffering. Eleven years ago, the affection became very troublesome. Even a moderate walk was sufficient to bring on "an attack of piles." During the last eight years, hemorrhages which, prior to this period, had been moderate, became at times profuse, the loss of a teacupful of blood having been of common occurrence. Eighteen or nineteen years ago, a period began and extended over eight years, during which she did not menstruate—doubtless owing to pregnancy and lactation. Four children, born during this time, were nursed as follows: One, eighteen months; one, one year; and the third and fourth, two years each.

A few external hæmorrhoids were the first to attract her attention. These inflamed and ulcerated many times, and when in this state, caused even more suffering than the internal piles. The latter always came down after stool, but usually returned without difficulty. There was also some prolapse of the rectum. Pain and soreness were constant. The former, located for the most part, in the lower part of the back, was more intense about the rectum, but extended somewhat towards the front. Constipation was not troublesome during the last five years, owing to the ability of the patient to guard against it. The loss of blood was a serious drain upon the patient's vital powers. After an attack the eyes were weak and tearful. The patient looked much older than she really was, and spent much of her time in bed. One of the internal tumors, called "perineal," on account of its being located in the anterior segment of the rectum, contiguous to the perineum, was the most troublesome to the patient. It was always the first to prolapse; it was frequently the only one that came out, and was, from its location when out, the most closely encroached upon by neighboring parts. From such causes, this variety of pile is generally the most painful. Ether having been administered the clamp and cautery were applied to four internal hæmorrhoidal tumors, March 16, 1874. Several external piles were removed with scissors, and the sphincter muscle was "overdistended."

March 18. The swollen mucous membrane began to roll from the anus, and on March 20th, it had reached its acme, being about the size of an English walnut. Pain on 18th and 20th called for morphia.

March 21. Alvine evacuation in response to syr. senn. comps. [1] and an injection of warm sweet-oil.

Cotton saturated with the following lotion was applied to the swollen mucous membrane: Ext. belladonnæ, grs. iv.; ext. opii, grs. vj.; liq. plumbi subacet. dil, iℨ.

March 25. Following an evacuation, the pain continued from one to two hours. After trying various laxatives, I found the following to act quite comfortably: Ext. colocynth, ext. hyocyam. āā grs. xvii.; ext. nucis vom, grs. iii.; Make 12 pills. S. one, two or three times daily, if necessary. Injections of warm sweet oil were advantageous.

March 29. Bowels move without pain.

March 30. Bowels move without the aid of medicine; patient up to-day—two weeks from the day of the operation; liberal cold water bathing of the anus, and when necessary a warm water enema.

March 31. Menstruating.

April 2. Able to ride out.

April 7. Rode out; patient is free from all discomfort, and expressed herself as feeling better than she had done for a number of years.

March 1, 1877. Patient is perfectly well at this date.

Case 7. Mr. ——, aged 35 years, had suffered from internal hæmorrhoids for nine years. Prof. De Laskie Miller, the family physician of this gentleman, referred him to me for operation. The patient is of the opinion that the hæmorrhoids were the result of straining at stool, having been unwilling to spare sufficient time from business for defecation. During the last three years of their existence, the piles, together with a portion of the rectum, prolapsed at stool, and could only be replaced by pressure and other manipulation. For a month preceding the operation, the pain was excessive, and it often required upwards of a half hour to return the protruded mass. During his efforts at replacement, the patient found it necessary

1. One part fluid ex. senna, three parts syrup.

to assume various positions, namely: on his back, on one side or the other, the legs and pelvis elevated, etc. Certain days he was obliged to leave his business from twenty to twenty-five times, in order to effect a reduction of this bleeding and painful protrusions. Pain was, more or less, severe for four or five years, but he had hemorrhage frequently during nine years; three years before the operation the blood began to run in a stream; at times he noticed several streams; more lately, he had hemorrhages daily for five or six days. Two week's freedom from hemorrhage was a rare occurrence. After some of his hemorrhages, the pulse beat reached 120. Being a man of much pluck, however, he put in a daily appearance at his place of business. He was frequently annoyed by cramps in his intestines; a sense of fullness in the top of the head, and a peculiar sensation in the eyes, almost invariably foreshadowed "an attack" and a hemorrhage. The protruded mass, frequently equal in size to half the first, grasped by the sphincter muscles, was productive of an agony, from which the patient was eager to be relieved at any cost. "An attack" was almost invariably the penalty paid for an indulgence in alcoholic stimulants. Anæmia and debility were prominent symptoms.

Operation.—The patient having been ætherized, Sept. 25, 1875, I made seven applications of the clamp and actual cautery. The part was very generally hemorrhagic, and bled freely, even upon careful manipulation. The mucous membrane in patches presented a granular appearance, and in addition to the larger tumors, small granular masses gave out even upon puncture a liberal and persistent flow of bright arterial blood. These latter are described as capillary hæmorrhoids. Two of the tumors, together with the redundant mucous membrane, were so large at their pedicles as to extend somewhat beyond a clamp of the largest size. After dealing with the tumors, other portions of diseased surface that bled was seared. One of the larger tumors was quite solid, and creaked when cut with scissors. A dose of deodorized ti. opium (grs. xx.) was ordered by Dr. Miller. The patient was much annoyed, and was kept awake by a frequent and painful

contraction of the sphincter. All hemorrhage had ceased when the rectum was returned.

HEMORRHAGE.—In two hours after the completion of the operation, I was summoned to see the patient. Nauseated by the æther, he had been vomiting; straining to move the bowels and tossing over the bed in a more or less violent manner. He was under the impression that the bowels had moved, but clots and fluid blood in large quantities had been voided. The bed clothing having absorbed the fluids discharged, the patient was covered with blood from head to foot. I sat by him and introduced ice suppositories for two hours. There was no return of the bleeding.

There was suppression of urine for thirty-six hours after the operation; the sixth day after operation, bowels moved copiously in response to castor oil.

From two to four grains of opium daily were required to allay pain, and to produce constipation.

Oct. 3. Bowels moved with but very little pain, in response to "bitter-water."

Oct. 4. Patient up to-day, about twenty minutes; instructed to secure a daily evacuation of the bowels by injection; patient up every day from this date.

Went down stairs on the 18th day; went out the 20th day; went to business on the 22d day, to remain a few hours.

REMARKS.—The clamp should be used so that the tissues to be cauterized shall not project beyond the end of the clamp. In this operation, the tissues of two of the tumors thus projected, and this, together with the straining, and other violence above referred to, was probably the cause of the hemorrhage. The sphincter muscle was not overdistended in this case, and hence the annoyance occasioned by its frequent spasmodic action. Even liberal doses of opium were insufficient to entirely avert this painful spasm. The more the parts contained within the grasp of the muscle are swollen, the more do they encroach upon the muscle, which resents such encroachment by painful contractions. By thoroughly "overdistending" the muscle at the time of the operation for the hæmorrhoids, this source of suffering may be avoided.

Patient is perfectly well at this date, March 12, 1877.

Reviews and Book Notices.

THE SURGERY SURGICAL PATHOLOGY AND SURGICAL ANATOMY OF THE FEMALE PELVIC ORGANS, In a series of colored plates taken from nature, with commentaries, notes and cases. By *Henry Savage, M. D., London, F. R. CS.*, One of the Consulting Medical Officers of the Samaritan Hospital; third edition, revised and greatly enlarged; an additional plate, also thirty-six wood engravings, with special illustrations of the operations on vesico-vaginal fistula ovariotomy and perineal operations. Philadelphia: Lindsay and Blakiston. 1876.

(For sale by subscription by *W. T. Keener*, Chicago.)

This elegant work has reached the third edition, a sure evidence of its great value to the profession. In this edition the anatomical plates are executed in the same beautiful manner as those of the two preceding editions. The accuracy of these plates connected with the lucid and comprehensive description accompanying them, render the book of Dr. Savage a useful guide to the student, and an acceptable office companion to the special practitioner.

While we willingly accord to it the highest praise as a work on the anatomy of the female pelvic organs, we must say that the surgery and surgical pathology of these organs are rendered in a very superficial and unsatisfactory manner. We believe in fact, the book would have done more credit to the author if he had confined himself to the anatomical features of the work so admirably given by him. While all the purely anatomical illustrations are excellent and instructive, a part if not the whole of the surgical and pathological plates are weak and tame in their effect, and some of them puerile. As one of this kind, we instance figure 1, in plate 14. About the only thing this figure illustrates is the utter impossibility of showing the operation for verico-vaginal fistula to a class of students in their seats.

Notwithstanding these defects, the good qualities ef "Savage

on the Female Pelvic Organs," will continue to make a demand for the book.

TRANSACTIONS OF THE MEDICAL AND CHIRURGICAL FACULTY OF MARYLAND, AT ITS 78TH ANNUAL SESSION. HELD AT BALTIMORE, APRIL, 1876.

After the usual record of business, the address of Dr. Roberts Barthalow is given. His topic, the degree of certainty in therapeutics, is one interesting to all thinking medical men.

Dr. B. believes it to be criminal for any practitioner of medicine to be an unbeliever in the positiveness of therapeutic effects. He cites in support of his argument the effect of numerous remedies in certain forms of disease, as the specific effect of quinia in malarial fevers, and of twenty grain doses of this medicine arresting an acute inflammation; the antidotal power of mercury in constitutional syphilis; chloral as a soporific; morphia as a curer of pain.

Dr. Johnston gives quite an interesting record of cases of transfusion, and an operation to relieve vesical ectopic deformity. The patient, a boy, was eight years old. "The umbilicus was wanting, as were the pubic bodies; a deeply red oval area of oozing mucous membrane in the supra-pubic region represented the bladder; the small pores at its lower part were the opening of the ureters; the penis was split as if horizontally, and the urethra reduced to an uncovered groove, continuous with the vesical membrane.

Below was a small scrotum provided with diminutive testicles; while above, on either side, an inguinal hernia swelled with every effort of the subject. The red bladder measured 3½ inches in width by 2½ inches in height, with ample space above to the xiphoid cartilage.

On the 22d day of January, 1876, the operation was performed. A great umbilical flap was brought down over the bladder, the skin surface lying under, and this was covered by two wing flaps, one from either groin, which met in the middle line, and were secured to the first oblong flap. The space left by the umbilical flap was almost effaced by drawing together the integuments of opposite sides, and

which had been dissected up; while the spaces left by the wing flaps were obliterated by a gliding of the skin which lay beyond the groins, made free underneath and attached to the outer wing flaps, now fixed in their new situation by silver and iron wire. As tension strained the lateral flaps, a crescentic incision was made beyond each groin to reduce it.

In about five weeks, he was able to return home greatly benefited, the operation having proven a success, perfect with the exception of a small loss of substance at the lower edge of the umbilical flap. In its present condition, the child will remain until cicatrization shall have completed its contraction, whereupon a second operation will be attempted, having for its object the formation of a sort of roof for his urethral groove.

As things are, however, the urine escapes over and around the penis only, and he is able to wear advantageously a rail-road urinal."

Dr. Van Bibber gives some cases of abdominal disease, one of which is very interesting. The case was first supposed to be one of constipation, but the various cathartics proving inefficient, Dr. V. was called in consultation, when the diagnosis of intestinal obstruction was made. Electricity was now tried. A strong Faradic current was passed over the abdominal muscles. The operation was prolonged, with the full strength of the battery, for fifteen minutes. This being tried the second day, and proving ineffectual, an effort was made to insert a long tube beyond the sigmoid flexure of the colon. Whilst making the exploration for this purpose, Dr. V. detected lying in the hollows of the sacrum, a tumor, which felt like a bundle of intestines in a scrotal hernia. The diagnosis then made, was that a portion of the small intestines had fallen into the pelvis, and was there retained, thus causing the obstruction. An effort to inflate the intestinal canal with oxygen gas, was a failure, and the patient died soon afterwards.

In an autopsy, 36 hours after death, it was found that a portion of the ileum had been drawn into the pelvis during a previous attack of peritonitis, and was bound there by strong bands of lymph.

Dr. Gibbons reports a case of empyema cured by thoracentesis.

A report on obstetrics by Dr. Erich speaks highly of the use of fifteen grain doses of quinia to accelerate the contractions of the uterus in lingering labors.

Of the obstetrical binder, he says in case of post partum hemorrhage, it will change an internal, and consequently, concealed hemorrhage into an external one.

Dr. Conrad gives a carefully prepared article on Insanity, in its financial relation to the state.

This little volume contains much that is interesting, and most of the papers are excellent. The print, paper, and proof-reading are all good.

W. H. M.

YELLOW FEVER AND MALARIAL DISEASES, embracing a history of the Epidemics of Yellow Fever in Texas; new views on its diagnosis, treatment, propagation, and control; descriptions of Dengue, Malarial Fevers, Jaundice, the Spleen and its Diseases, and Diarrhœa Hemorrhagica; with practical remarks on their successful treatment, etc. By *Greensville Dowell, M. D., etc.* Philadelphia. 1876.

This book is an octavo of upwards of 240 pages. Its lengthy title indicates the scope of the discussion it contains. The discussion is everywhere searching and thorough. On Yellow Fever, Dr. D. speaks with authority, having treated over two thousand cases of this disease. Many of his ideas as to the pathology of the affections discussed are original, but hereafter no thorough study of these disorders as they occur in the South, can omit the work of Dowell, which must be stamped as standard.

BOOKS AND PAMPHLETS RECEIVED.

Mothers and Daughters. Practical Studies for the Conservation of the Health of Girls. By T. S. Verdi, A.M., M.D., etc. 1877.

The Medical Men of the Revolution, with a brief history of the Medical Department of the Continental Army. Containing the Names of nearly 1200 Physicians. An Address before the Alumni Association of Jefferson Medical College, 1876. By J. M. Toner, M.D. 1876.

Remarks on Intra-Uterine Polypi, etc. By A. Reeves Jackson, A.M., M.D. 1876.

Milk-Sickness. A Paper. By W. H. Philips, M.D.

Second Annual Report of the Board of Health of Georgia. 1876.

Valedictory Address, etc., Hahnemann Medical College and Hospital. By G. A. Hall, M.D., etc. 1877.

Transactions of the Thirteenth Annual Meeting of the Ohio State Medical Society, held at Put-in-Bay. Cincinnati. 1875.

Seventh Annual Report of the New York Ohpthalmic and Aural Institute. New York. 1877.

An Essay on New South Wales, the Mother Colony of the Australias. By G. H. Reid. Sidney. 1876.

The Use of Uterine Supporters. By Clifton E. Wing, M.D. Boston.

Pneumatic Pressure and the Genu—Pectoral Posture in the Reduction of Uterine Luxations. By A. Sibley Campbell, M.D.

On the Importance of the Uterine Ebb as a Factor in Pelvic Surgery. By Horatio R. Storer, M.D. Boston.

The Relations of Medicine to Modern Unbelief. A Valedictory Address by R. O. Cowling, M. D. Louisville.

Report of the Fifth International Ophthalmological Congress held at New York, Sept. 1876.

Correspondence.

SAN FRANCISCO, March 15th, 1877.

EDITOR JOURNAL AND EXAMINER:

Dear Doctor:—In the March number of your excellent JOURNAL, is a reference to an article of mine in the *Pacific Medical and Surgical Journal* for January, on the use of tincture of iron in Diptheria, in which I am represented as saying that an adult patient should get from half an ounce to an ounce in twenty-four hours. By referring to the article you will find my language to be as follows: "From half an ounce to an ounce should be administered in twenty-four hours—the smaller quantity mentioned for a child of two years, and the quantity increased for older children." I am also quoted as advising as a substitute in case of the rejection of the tincture by the stomach, the tartrate of potassa. My proposed substitutes was the *citrate or potassio-tartrate of iron.* Further, the statement is attributed to me, that usually twenty-four hours of the iron treatment will suffice. Frequently, not usually, was my expression; and I added, "My belief is that in from twenty-four to forty-eight hours the system becomes saturated with it, and that smaller doses are then requisite, or that it may be suspended and chlorate of potash and muriatic acid substituted." I have thought these errors of sufficient importance to induce me to ask the favor of their correction.

Yours truly,

H. GIBBONS.

Obituary.

Dr. Heinrich Otto Gaetjens died at Denver, Col., on February 26th, 1877.

Dr. Gaetjens was born January 13th, 1838, in Hamburg, Germany, where he received a thorough collegiate education. In 1858 he went first to Wuerzburg, then to Goettingen to study medicine; at the latter university he graduated in 1863, and the following year he passed a very rigorous examination at Hamburg, to receive the appointment as assistant-surgeon to the city hospital. That position he most efficiently filled till, in 1869, he left for this country. In October, 1869, he arrived at Chicago, and took his residence on Sedgwick street, where his knowledge and skill, his kindness and unassuming manners, soon won for him the confidence of the people and the friendship of his confrères. In 1873 he participated in the founding of the German-American Dispensary. But in 1875 his health began to fail; a severe bronchitis with hæmoptysis inaugurated a rapid development of tuberculosis. He gave up the practice to seek relief and recovery, in Denver, where he died. According to his will, his remains were brought to this city, and buried in Graceland Cemetery, March 4th.

Gustav G. Goll died in Chicago on the morning of the 29th of March. He graduated at Rush Med. College, in 1871, and has, ever since, been a very active practitioner, striving for practice and reputation. His promising career was suddenly closed by an attack of pneumonia.

Medical News and Items.

Sir William Fergusson, the distinguished English surgeon, died February 10th.

Dr. Gurdon Buck, well-known especially for his achievements in autoplastic surgery, died at New York, March 6th.

With the deepest regret we inform our readers that Prof. J. W. Freer, President of the Faculty of Rush Medical College, has been seriously ill the past two weeks, and is now in so precarious a state, as to give rise to the greatest anxiety.

Two new journals have reached us. *The Toledo Medical and Surgical Journal* and *The Quarterly Journal of Inebriety*. The former is a monthly, and Dr. Jonathan Priest is the editor. The latter is the official organ of the American Association for the Cure of Inebriates, and the first number does the projectors credit. It is under the management of Dr. T. D. Crothers, Binghampton, N. Y.

At the New York Ophthalmic and Aural Institute 4,709 patients were treated during the past year; 3,873 for diseases of the eye, and 836 for diseases of the ear. From the time this charity was opened, May, 1869, to the 31st of December, 1876, 28,191 patients have been treated in the dispensary, and 2,205 admitted to the house; and 3,130 operations have been performed during that time.

The Central Free Dispensary of West Chicago received, a few days ago, a generous donation of twelve cases of extract of malt with iron, cod liver oil, and pepsine, from Tromers Extract of Malt Company.

The *Alumni of the County Hospital* held their annual re-union, March 21st, in the amphitheatre of the new hospital. About twenty gentlemen attended this pleasant meeting, to renew the old acquaintance with the air and diet of the hospital.

At the last quarterly meeting of the Michigan State Board of Health, Prof. R. C. Kedzie read an interesting report on the quality of illuminating oils in use in Michigan. The professor, by the advice of the Board, had visited Cleveland in order to examine the methods of refining the crude petroleum to make illuminating oils. His investigations established the following facts: That to manufacture good oil which will stand the test required by the Michigan law for inspection, requires either extra care and expense in refining, or it takes what is called the "heart of the run." This is done, in the case of what is known as "Water White Oil," which is transparent, burns with a clear bright light, and does not become opalescent by exposure to a temperature of 32° F. But to dispose of the inflammable products and still furnish an oil which will stand the Michigan test, the refiners run into the low-test oil the waxy and tarry products, paraffine, etc., which are not readily combustible, and which raise the standard of the low-test oils, rendering them capable of standing the test, but of poor quality for lighting purposes. Among the specimens exhibited was four ounces of paraffine taken from one quart of oil. The presence of a large amount of paraffine has a tendency to gum up the wick and render it incapable of supplying oil to the flame. Dr. Kedzie found that the "Water White Extra" would flow through 93 millimetres of tube containing wicking, and burn freely, while the "Michigan Test,"

or the oil that contains so much paraffine would flow through only seven millimeters. The action of sunlight upon oil spoils its burning qualities. It developes in the oil a quantity of tarry matter. Two specimens of oil, drawn from the same barrel, one of which had been exposed to the light for a few weeks, and the other kept in an opaque bottle, were exhibited. The one exposed to the light was decidely yellow and clouded, while the other was still white and transparent. If the test could be extended to ascertain the amount of paraffine present, and rejecting such oil as contains it in amounts which impede the capillary action of the wick, or render the oil hard or waxy in cold weather, it might do very much towards removing the difficulties of which the people complain. The best test which he could now propose for this was: the oil should remain clear when its temperature was reduced to 32° F.

LIBRARY OF THE MEDICAL PRESS ASSOCIATION. *A Card from the Librarian.*—The Library has been removed to its new quarters at 188 South Clark street, room 9. It will be kept open, in charge of a competent assistant, from 10 to 4 o'clock daily, except Sundays.

The *Index Rerum* of periodicals, reports and transactions, is sufficiently advanced to be very useful for purposes of reference, and its usefulness will increase month by month as it is made more complete.

Donations of books, pamphlets, and papers, are earnestly solicited.

The following rules for the government of the Library have been established by the Board of Directors:

I. No books shall be allowed to be taken from the library room.

2. The use of the library is restricted to members of the Association; to physicians who pay five dollars annually for the privilege; to visiting regular practitioners from abroad.

NORMAN BRIDGE, *Librarian.*

The eighteenth annual commencement of the *Chicago Medical College* took place at Plymouth church, March 20. Prof. N. S. Davis delivered the address to the graduates, in whose behalf G. O. Rutledge responded. The degree of M. D. was conferred upon the following gentlemen: John P. Bading, Elizur K. Bailey, Frederick A. Beck, Victor A. Bergeron, Charles D. Boardman, George W. Bothwell, James Brooks, James Brown, Justin H. Burdick. Robert A. Carson, George P. Chenoweth, Edgar V. Dales, Charles S. Dickson, Sam. F. Farrar, George F. Fleischman, Lucius F. Foote, Gustavus H. Gray, Truman A. Hand, Theodore F. Johnson, Charles D. Jones, William H. Kirby, Nathaniel S. Lane, Edwin R. Lovesee, Frederic L. Marcotte, Isaac McComb, Henry H. McGray, Frank P. Nourse, Hiram L. Pease, Joseph I. Pogue, George W. Pratt, John G. Reid, George O. Rutledge, Frank F. Safford, Frederick Schoop, Frank W. Searles, Gustavus A. H. Sienank, Edward H. Webster. Ad eundum degree upon Isaac L. Potter; honorary degree upon Julius A. Freeman.

Recent German medical journals contain reports of cases of pemphigus acutus neonatorum which have appeared in several of the clinics, and in private houses, particularly in the practice of midwives. This disease seemed to cling to the practice of midwives with stubborn tenacity, as is shown by a long array of facts and cases reported by Dr. Dohrn. The vesicles were in some instances few in number, but in others the erythema was considerable. In one child that died, the eruption of vesicles was so extensive that those persons who saw it declared that the appearance of the corpse was horrible, almost the entire body being covered with atheromatous crusts. In most cases no fever attended the eruption, and the general health of the children was not visibly influenced. The midwives in whose practice cases were appreciably appearing, were advised by the physicians of Wiesbaden to observe the utmost cleanliness, to use disinfecting washes, to change their

clothing, to visit the well children before the sick, and to use the thermometer to carefully determine the temperature of the children's baths—and yet the disease continued to spread. Dr. Dohrn advised the midwives to quit practice for four weeks, and this effectually checked the progress of the disease, as was shown by careful statistics.

MEMOIR OF DR. BENJAMIN RUSH. Doctor Rush was born on a farm 13 miles from Philadelphia, on the 24th of September, 1745. At the age of 9 years he was placed under private instruction, and so remained until he was 14 years of age, at which time he was sent to Princeton College, receiving the degree of Bachelor of Arts from that institution in his 17th year. Subsequently, he took up the study of medicine under Dr. John Redman.

Having remained 6 years with Dr. R., and also having prosecuted his studies with great diligence and success; translating in the meantime, "Aphorisms of Hippocrates," from the original Greek, also, works of Bœerhaave and Sydenham from their original Latin, he was compelled in consequence of there not being, at that time, a medical college in America, to go abroad to complete his medical education. So, in 1766 he went to Edinburgh, under the tutorship of Dr. Cullen. After two years of close study in that institution, he took his medical degree. Remaining nearly a year in the London hospitals, he returned to Philadelphia, and entered at once upon busy, and successful practice. Soon, however, he was appointed to the chair of Chemistry, in the medical college of Philadelphia; (this being at that time the only medical college in America, and about two years old), and a few years later to the chair of Theory and Practice which he retained until his death in 1813. He remained in the Medical College of Philadelphia, and taught medicine 44 years.

Dr. R. was the discoverer of, and first to teach the true

pathology of the dropsies. The treatment of hydrocephalus was greatly advanced by his careful clinical and autopsical studies. To Rush is due the credit of separating the American medical mind from European authority; thus securing the first impulses to independent medical thought. In 1793 an epidemic of yellow fever developed in Philadelphia, which destroyed in three months four thousand lives. Rush was one of the few who remained at their posts. The courage and fortitude with which he labored in this epidemic, his efforts to establish sanitary protection of cities—the first effort ever made—against yellow fever, spread his name far and wide. "Kings and emperors sent him tokens of appreciation; learned societies of Europe sent him testimonials and enrolled him in honorary memberships; and the most famous European physicians wrote in praise of him." As a statesman and orator, Rush excelled. He was one of the first to advocate and support American independence. As a writer he was effectual. It was he who influenced Thos. Paine to write his pamphlet entitled "Common Sense," which did more to promote the liberty and independence of the American people, than any other single publication; and of the five physicians who signed the Declaration of Independence, Rush was one.—*Detroit Med. Journal, Feb.* 1877.

Summary of Progress in the Medical Sciences.

I. Obstetrics and Gynecology.

Puerperal Fever and Septicæmia. George Hunter, Scotland. (*Edinburgh Med. Jour.*, 1876.)

Dr. Hunter's aim is to furnish conclusive clinical evidence that puerperal fever may produce septicæmia, and that septicæmia may produce what has been termed puerperal fever. It is with reluctance that we refrain from reproducing the whole article under the head of "Selections," in another department of The Journal and Examiner. Several cases, *ad rem*, are reported by H., which indicate unmistakably the position he defends:

The first case affected with puerperal fever was that of Mrs. A., the mother of two healthy children, who aborted on the 23d February, 1876, at the third month.

The hemorrhage was not by any means profuse, but the decidua required some rather tedious manipulation for their complete removal; and it was noticed that portions of them had an offensive odor. On the third day after parting with the uterine contents, she had a rigor, followed by severe pain over the uterine region, with nausea, frequent weak pulse, increased temperature (103°), furred tongue, and marked diminution of the lochial discharge.

From this time until March 3d, when she died, the pulse became more frequent, ranging from 120 to 140, weak and thready; the tongue sodden and bile-stained, but not altogether dry; vomiting, principally of bilious, but latterly of most offensive matter, with a slight stercoraceous fetor, severe and sustained; expression anxious, but mental faculties preserving their usual alertness; the abdomen increased in distension, with the intestinal convolutions distinct and flatus retained, until respiration became shallow and embarrassed; and then the fall of temperature, with pinched expression, coldness of the breath, forehead, and nose, and icy feeling of the extremities ushered in the fatal termination.

Mrs. Z. having been engaged to be with Mrs. A. at her confinement, came to her as nurse when she aborted, and slept in the same room, on a bed quite close to, and almost alongside, her patient. Mrs. Z. was instructed and directed to make frequent vaginal injections and vulvar ablutions, which she carried out very carefully and satisfactorily, both with Condy's fluid and carbolic-acid lotion. She was almost in constant attendance on Mrs. A. during the night, and was seldom able to undress completely for the few hours she might be able to snatch, while her patient was being watched by some of her own relatives.

Four or five days after Mrs. A.'s funeral (11th or 12th March) Mrs. Z.

went home to her own family, which consisted of her husband, a man about 66 years of age, and an imbecile son of 18 years.

Ten or twelve days after her return, her husband exhibited symptoms of virulent blood-poisoning. These were violent rigors, followed by fever, thirst, frequent weak pulse, which soon became irregular; profuse perspirations, dry brown tongue, delirium, diarrhœa, etc.

A swelling began to form in the right axilla, which did not appear to be acutely painful, and which gradually increased to the size of a melon or cocoa-nut, at the time of his death. Some of the contents were removed by the aspirator and found to contain sanious purulent matter, serum, and tissue *debris*. The urine did not contain albumen, and there was no disease elsewhere.

"The *third* case (Mrs. G.) was attended by my assistant, Dr. Brown, on the 7th March, in her fourth confinement. Labor was easy and natural, and nothing untoward happened until the evening of the second day after delivery, when she complained of coldness of feet and shivering feelings passing up the legs and across the small of the back. Early on the morning of the third day she was seized with severe pain in the left ilio-hypogastric region, rigors, great frequency of pulse, vomiting, and other symptoms, which, with the flabby mammæ, and arrested or greatly diminished discharge, left no doubt in my mind respecting the dangerous, and I may say hopeless, malady with which I had to do. Death took place on the 13th March, six days after delivery, and after only four days' continuance of the more serious symptoms.

The effects to those in attendance upon Mrs. G. were most serious, and demand attention.

Mrs. X., the mother of this patient, who acted as nurse, making frequent vulvar and vaginal cleansings and injections, was seized on the fourth day after her daughter's delivery with prolonged shivering, followed by fever, sickness, great thirst, quick pulse, and acute pain from the right fore-arm to the shoulder. On the following day the right shoulder was swollen, and the supra-clavicular, subclavicular, and axillary glands were enlarged and painful. This was succeeded by alarming constitutional symptoms, with great and severe prostration. The pulse rose to 120, and was frequently irregular, the tongue dry and brown, and there was much thirst, with great mental depression and apathy. To the lymphangitis there were superadded cold shiverings (more than once repeated) and perspirations, and ultimately suppuration of the affected glands ensued. After evacuation of the large abscess which formed at the outer border of the pectoralis major, the symptoms abated, and on the 4th May she was convalescent and gaining strength rapidly. The cicatrix of a slight injury to the dorsal surface of the right index finger, which had escaped observation at the time of its infliction, was now discovered, and Mrs. X. remembered her family calling her attention to it on her return to her own house immediately after her daughter's decease. It then resembled the small blister resulting from a burn, and was filled with white matter. The resulting cicatrix was the size of a shilling.

When Mrs. X. became ill, another daughter attended Mrs. G., and performed the duties of nurse until the latter's death. Three or four days afterwards, when in town shopping, Miss X. had a rigor, accompanied with a feeling of general illness and sharp pain on the dorsal aspect of the joint between the second and third phalanges of the right ring-finger. To much constitutional disturbance succeeded increasing pain, swelling and tension of the dorsal and palmar aspects of the hand, and brawny infiltration of the fore-arm, with red lines indicating the course of the inflamed lymphatics. The local symptoms increased still more in severity, until there were uniform redness, swelling, and tension of the hand, of the fore-arm, and part of the arm, with painfully enlarged glands in the axilla. Free incisions were made over the dorsal and palmar aspects of the ring-finger and hand, which gave exit to a considerable quantity of serum and sanious pus. The lips of the wound remained gaping, in this respect resembling an incision into a piece of liver, and exactly like the incisions into the hand of Mr. Y., to whose case I have already alluded. Miss X. was now removed from the house of her sister in the country to town, when the greatest care was observed in dressing the hand antiseptically morning and evening; and, fortunately, the finger was saved, although amputation at the metacarpo-phalangeal joint, or even of part of the hand, appeared at one time to be unavoidable. Recovery was tedious, there being much vomiting, anorexia, and despondency; but on the 4th June the wounds were completely healed, some stiffness and contraction of the ring-finger only remaining.

One of the servant-maids, who had washed some of the body-linen, soiled by discharges from the deceased, next became affected. She shivered and complained of headache and feverishness, and suffered from sloughy ulceration of the tonsils, with enlargement of the submaxillary glands. She was under the necessity of leaving her situation to go to her own home, and she thus passed from my observation.

Finally, Mr. G., a healthy young farmer, much out in the open air of his upland farm, was affected with general *malaise*, ending in inflamed tonsils, which, however, terminated in resolution after a short illness."

From March 9th to April 1st, H. discontinued obstetric practice, and went into the country, exposed himself freely to the purifying influences of wind and weather. Before returning he took a Turkish bath, made a complete change of clothing, and used the nail brush more diligently, if possible, than before. On the day of his return he was called to three lying-in cases. The first two cases he reached late, and his services were scarcely needed; they made good recoveries. Let the Doctor give his own account of the third case:

"The third case, my *fourth* fatal one from puerperal fever, was that of Mrs. R., a healthy young primipara.

I used carbolic-acid for the fingers of my right hand, and took the precaution to change my coat on my arrival, having borrowed one from the husband for the occasion. In spite of all these precautions, Mrs. R. shivered on the third day, complained of pain over the uterus, and had a slight tendency to diarrhœa.

The course of her case was in every respect similar to the others narrated; but the symptoms were not quite so acute, for death did not occur until 10th April. After the third day, thinking it better and safer for my other patients, I discontinued my visits, and Dr. Baird, my former partner, very kindly undertook the care of this case.

Mrs. X., who lived near at hand, came to be with her daughter at her confinement. She was constantly in the same room with Mrs. R., and, when the latter became seriously ill, slept in the same bed. On the second day (4th April) Mrs. X., who had been very anxious about her daughter, pricked the middle finger of the left hand with a pin when removing the binder, and on the third day became suddenly ill, with shivering, vomiting, and headache. At the time of my visit, she had a pinched, earthy look, with hollow eyes, frequent pulse, and a tendency to retching and giddiness on walking. She was at once removed to her own house, and when seen the following day, she complained of pain in the left shoulder and axilla. On examination, it was found that the axillary and subclavicular glands were enlarged and painful to the touch, and that the arm and fore-arm were swollen and inflamed. Soothing lotions reduced the latter; but the glandular affection increased in severity, and, on the 11th May, a breakfast-cupful of purulent matter was evacuated from an opening at the anterior fold of the axilla, and a considerable amount also from a second opening on the inner aspect of the arm, a couple of inches above the elbow. These two openings communicated, and, on the 8th June, a drainage-tube was introduced.

During the maturation of the suppuration in and around these glands, Mrs. X. was totally unable to leave her bed, and was subject to chills, followed by flushings of heat, generally ending in perspirations, which caused much adynamia. Since the introduction of the drainage-tube, and the more complete evacuation of the offensive discharge, appetite and sleep have returned, and she is now (28th June) convalescent.

A sister-in-law, who attended to Mrs. R. and the infant after Mrs. X.'s illness, and who slept in the same bed on the nights of 6th, 7th, and 8th of April, began at that time to complain of stiffness of one side of the neck when supporting Mrs. R. in bed, and, on the 10th or 11th (April), it was observed that the submaxillary glands of that side were much swollen and painful. An examination of the fauces made the nature of the case apparent; for it was then observed that there was ulceration of the tonsil, with the formation of white sloughing patches on it. Extensive suppuration of the affected glands ensued, and, on the 5th May, the abscess was freely incised, giving vent to a large quantity of healthy pus. She has not yet recovered her strength, and (28th June) still looks very anæmic.

A *second* sister-in-law assisted at the washing and dressing of the body of Mrs. R., and, in doing so, carelessly put one of the pins into her mouth. On the following day she assisted in washing some of the clothing of the deceased. The same evening she returned to her own home in a neighboring town, and found that her throat was affected. She was confined to the house for some time, under the care of the local medical attendant.

Soon after the infant's birth (9th April), those nursing it observed an offensive discharge from the roots of the finger-nails of both hands. Care was taken to prevent the child putting its fingers into its mouth, and a carbolic-acid lotion having been applied, it soon made a good recovery.

A *third* sister-in-law became affected soon after the opening of the abscess in her sister's neck, with swollen, inflamed, and slightly ulcerated tonsils.

Next, the husband of Mrs. R. was seized eight days after the preceding with acute tonsillitis, which, however, did not go on to suppuration, but ended in resolution.

Finally, the husband of Mrs. X., who had washed some of the bandages and rags soiled by the discharges from his wife's arm, was seized with erysipelatous redness and swelling of his right hand, near the root of the thumb, and between it and the index finger. Under the use of local discutient and sedative lotions, it gradually disappeared without leaving any bad results.

Until quite recently, it was almost universally admitted that puerperal fever was a fever *sui generis*. To-day, however, the most distinguished obstetric authorities have abandoned this theory. Dr. Hunter's cases point to the probable identity of puerperal fever with septicæmia.

II. Practical Medicine.

Paracentesis of the Pericardium, with an Analysis of Forty-one Cases. Roberts. (*New York Med. Jour.*, December, 1876.)

Paracentesis of the pericardium, unfortunately, holds at the present time the position that was occupied by thoracentesis years ago. The operation was first proposed by Riolan, in 1649, but owing to the difficulty in making a correct diagnosis, it made but little, if any, progress until Romero's day, 1819, when it was revived. The author has collected forty-one cases which were operated on by different men, dating back to Romero in 1819, and down to Nixon in 1876. The site of operation in fifteen cases was the fifth interspace, ten the fourth, three the sixth, and two the third interspace. In the rest of the forty-one cases no seat of puncture is mentioned.

The bistoury and scissors were the first instruments used, and only three operations were made by them. The trocar came next in order, and was used seventeen times, followed by the trocar and incision six times. All these instruments of operation, however, soon gave way to the aspirator, which was first used in 1873, nine operations being made with it up to 1876. No mention is made of the instruments used on the balance of the forty-one cases reported.

Of the forty-one cases twenty recovered. Each of the fatal cases had some complication that made recovery impossible. The point of puncture should be in the fifth interspace, about midway between the left nipple

and sternum, penetrating directly backward. The dangers to be most dreaded are wounding the internal mammary artery, and striking the heart as it is thrown forward by the systole; but by tapping at the point mentioned the artery is avoided, because of its situation, being about one-half or one-quarter of an inch from edge to sternum. Injury to heart could be avoided by attaching the exhausted air chamber of the aspirator to the needle as soon as it is buried beneath the skin.

The author stoutly maintains that the operation is fraught with no danger to patient, and should be made even though grave complications are present; believing that life is prolonged in the most hopeless cases, and that a cure will follow where there is no complication.

He concludes by denouncing the let-alone treatment, and says that the fluid should be removed as soon as the sac becomes filled. W. F. L.

Scarlatina Complicated with Typhlitis; Fatal on the Seventh Day. STEDMAN. (*The Boston Med. and Surg. Jour.*, December, 1876.)

Dr. B., house physician, city hospital, while attending scarlet fever cases in one of the isolated wards was stricken down with all the symptoms of scarlatina well developed.

December 5, fourth day of illness, occurred a general amelioration of the more severe symptoms, promising a speedy recovery; however, during the afternoon of same day (5th) these promises were dissipated by colicky pains around the umbilicus and in right iliac regions, making all motion of body painful.

December 7. Pain had located entirely in right iliac and hypochondriac region.

December 8. Patient's condition greatly embarrassed by hiccough, eructations and vomiting.

At 11:20 of the same day (8th) he died.

Autopsy twelve hours after death. Small quantity of purulent fluid in peritoneal cavity, also indications of recent inflammation of portion of peritoneal covering, having its origin at the appendix cœci, and slightly extending over most of right side of abdominal cavity. The appendix was adherent, much enlarged, thickened, and contained oval concretions slightly larger than a cherry stone; small intestines just above cæcum contained four or five hard yellow masses, with fæcal odor, resembling curdled milk. The kidneys were enlarged, and their cortical portion was cloudy, with slight rednesss of the cones.

Dr. S. concludes by saying that at the age of eight years the patient had scarlatina. W. F. L.

Sulpho-Carbolate of Sodium in Diptheria. ANTHONY. (*The Med. and Surg. Reporter*, January, 1877.)

During the past three months Dr. A. has treated eighteen cases of true diptheria successfully, save one, with sulpho-carbolate of sodium. His usual way of administering the remedy to children is to mix it with sugar and let them eat it. The dose is from one to ten grains, repeated every

one, two or three hours. It may be combined with quiniæ sulph., tinct. ferri mur., ammoniæ carbon., or given in brandy, whisky, wine, syrup, or any aromatic water. W. F. L.

Aphonia of Ten Months' Duration from Paralysis of the Arytenoideus Proprius Muscle, with Concomitant Heart Disease; Voice Restored by the Direct Application of Electricity to the Vocal Cords. BEVERLEY. (*The American Jour. of the Med. Sciences*, Jan., 1877.)

In 1872, a lady 42 years of age, was exposed to cold, from which she lost her voice; remaining in this condition for three months, her voice spontaneously returned. Three years later (1875), her voice again disappeared, apparently from the effects of cold. Not returning this time, she consulted a physician, who pronounced it functional aphonia, and made local applications of faradic current to the throat, without effect.

May 25th, 1876, Dr. B. was called to attend patient. In connection with the faradic current to the arytenoideus muscle, which was continued every other day until June 15th, 1876, he gave strychnia 1-30 gr. three times daily. Under this treatment she improved, and in a few days was able to speak in a very good tone of voice.

Her condition rapidly improved, until she completely recovered her voice. (We are not told by the author, whether the treatment was continued with the same regularity, as from the beginning, during his attendance upon her.) At the time of first visit, patient complained of pain in left mammary region, and on pressure it was greatly augmented. Percussion and auscultation revealed some enlargement of heart, and a distinct bruit at base accompaning first sound. The author believes that, the loss of voice was due chiefly to hypertrophy of left ventricular walls; the increase of abnormal tissue, making pressure on nerve structure, resulted in reflex paralysis of one of the intrinsic muscles of larynx, effected through certain motor fibres of either vagus. W. F. L.

Rupture of the Healthy Œsophagus. FITZ. (*The American Jour. of The Med. Sciences*, Jan., 1877.)

A gentleman, 31 years of age, merchant, while eating, became strangulated by a tough piece of meat, about an inch in length, by one-half inch in width. After remaining in this condition about an hour, he succeeded, by great muscular energy, in ejecting it. Large clots of clotted and liquid blood were immediately expelled; this was soon followed by tumefaction of left side of neck, just below angle of lower jaw; a corresponding swelling of opposite side of neck soon followed, with prostration to patient. Liquids were swallowed without annoyance. He died on the seventh day. Autopsy showed a large longitudinal rent of œsophagus, situated in front and to right, at and below bifurcation of trachea, its length about two inches, and extending through all the coats.

W. F. L.

Sleeping Disease. CORRE. (*Jour. de Méd. et de Chirur. prat.*, Jan., 1877.)

Hitherto this disease has only been recognized in the negro race. The patients, at first, present a peculiar tendency to sleepiness; they become taciturn, lose appetite, and are gradually enfeebled. Finally, the tendency to sleep becomes invincible and continued. Even when awakened the affected return at once to the condition of sleep. General intelligence is fairly preserved and delirium only supervenes exceptionally. In some cases convulsions, contracture and trembling result. There is concurrent fever, especially in the evening, but without regular accesses. The issue is generally fatal, in consequence of the progressive debility. The lesions discovered are quite variable. Most frequently there is softening of the cerebral tissue, and congestion of the meninges, but as an exception, it may be noted that the cerebral substance has been found in a normal condition, with anæmic membranes. The author calls attention to two points of etiological interest: 1. The frequency of the disease in certain definite regions, such as Western Africa, Senegambia, etc. 2. The predilection of the disease for the blacks. It has, accordingly, been considered as one of the manifestations of paludal intoxication, and it would seem to be the only manifestation of such a condition in the negroes who, as is well known, possesses a certain immunity against impaludism. Corre, however, considers this hypnosis to be due to a slow intoxication, resulting from the alimentation of the negro in those latitudes—his food consisting largely of rice, maize, etc. If this latter factor could not be demonstrated as efficient, we should perhaps refer the disease to the profoundly depressing influence of a nostalgia, much more active among the blacks than is commonly supposed to be the case. Other authors have concluded that the disease resulted from a form of encephalitis. M. Ulecia, as the result of his observations in Cuba, believes that the disease is an ischemic neurosis, and that the functional trouble is due to perverted innervation, produced by alteration of the blood.

Inoculability of Tubercle. METZQUER. (*Lyon Médical*, No. 23, Dec. 3, 1876.)

An interesting paper upon this subject was read by the author before the Paris Academy of Medicine. His conclusions were that tuberculosis is not a specific disease, and is not inoculable. The so-called ganulations produced by inoculation are simply infarctus, resulting from primary or secondary embolism. They are produced at the site of inoculation, either by admission to a veinule or lymphatic capillary. The solid particle, transported to the lung, may become there implanted and give origin after a fashion to a tuberculous lesion. Ordinarily, however, we find merely clots in a retrogressive phase. If the animal be permitted to survive for a time, these purely inflammatory lesions do not fail to disappear. It is only by destroying animals at periods more or less remote from the date of the experiment, that the production of the phenomena described can be properly studied.

III SURGERY.

Necrosed Nasal Bones Swallowed and Impacted in the Œsophagus. DR. M. LANGENBECK. (*Memorabilien*, XXII., 1.)

A woman, aged forty years, who four years since had syphilitic caries of the nasal bones, one morning woke up and could not swallow. Though the patient was not aware of having swallowed a hard substance, the œsophagus probe was arrested in its progress, midway between the pharynx and stomach, by a hard body so firmly impacted, that it baffled all attempts at extraction, by various instruments. The patient unable to swallow water, was fed by enemas; but after twenty days it became evident that she would soon succumb from inanition. The doctor then made another attempt at extraction; he introduced a long, slender whalebone, which tapering off toward the end, carried a small, conical bulb. After manipulating about half an hour, the bulb slipped down below the foreign body, and the latter finally began to move when cautious tractions had repeatedly been made with the bulbous end of the whalebone. No sooner was the foreign body dislodged, than it was thrown up by vomiting. It proved to be a conglomerate of the necrosed nasal bone, vomer and both the inferior turbinated bones which the patient must have swallowed in her sleep.

Pulsating Tumor of Orbit resembling True Aneurism; Ligation of Common Carotid; Subsequent Removal of Tumor; Recovery. FROTHINGHAM. (*The American Jour. of the Med. Sciences*, January, 1877.)

A pulsating tumor of orbit, of three years' standing, occurred in a lady aged thirty-five years. On tactile examination the eye moved perceptibly with each pulsation; and upon compressing the common carotid the bruit ceased, and the tumor, with slight pressure with the finger, would recede in the socket. The eye was very much protruded, and the sight greatly impaired. Later in the month (March, 1872,) Prof. T. A. McGraw saw the case with Dr. F., and diagnosed true aneurism of the orbit. In May—three months later—the common carotid was tied, tumor diminished in size, bruit and pulsation ceased for fourteen days, when it returned, but not with so much force. On the eighteenth day the ligature came away; patient making a slow recovery from the effect of operation. Ligating the artery so greatly retarded the growth of the tumor that not until November 3, 1875, did it become urgent for a second operation.

Diagnosis having been changed from a true aneurism of orbit to aneurism by anastomosis, excision of tumor was advised and made. The excised mass consisted of sacculated vessels, held together by connective tissue, and resembling in appearance a sponge.

Dr. F. believes that there is a general tendency on the part of surgeons to regard all deep-seated pulsating tumors of orbit true aneurisms; and not until a more complete diagnostic distinction is arrived at can mistakes be avoided. W. F. L.

Method of Retention of Umbilical Hernia at an Early Age. ARCHAMBAULT. (*Jour. des Conn. Méd-Chir.*, September 1, 1876.)

Very young infants affected with umbilical hernia are generally dressed with a button pad and bandage, held *in situ* by a circular spring. This has the obvious disadvantage that the button rarely remains in coaptation with the umbilical depression, and the consequence is that the remedy becomes worse than the evil.

A simpler method, requiring no bandaging, has been devised by the author. A piece of softened white wax is moulded between the fingers until it has the shape and size of a small ball. It is then divided so as to form two hemispheres. One of these hemispheres, in size proportioned to the extent of the umbilical depression, is engaged by its spherical surface in the depression, and retained in position by a strip of diachylon plaster. Instead of the wax, a bit of gutta-percha may be employed, previously softened in warm water.

Whichever substance is employed the effect produced is the same; at the end of two hours the obturating body is sufficiently softened to adhere firmly to the skin. After that no bandage is necessary to hold it in place. By this simple and inexpensive expedient the cure is effected in less than two months.

If the plaster occasions a cutaneous erythema, it may be replaced every second day, after the surface has been well dusted with rice powder.

The Gunshot Wounds of the Ankle Joint during the Franco German War. GROSSHEIM. (*Deutsche Militaeraerztl. Zeitschr.*, 1876, No. 4; *Centralbl. f. Chir.*)

The author could give a pretty complete report of those cases which were submitted to operations, while the record of cases treated by the conservative method is very deficient.

The total excision of the ankle joint (*i. e.*, the removal of the articular ends of the tibia, fibula and astragalus,) was recorded fifty times, with twenty-six recoveries, twenty deaths, and four unknown results. In nine cases the leg had to be amputated afterward; two of these patients recovered and seven died. The result of the successful operations was a complete anchylosis, with a shortening of the leg varying between two and fifteen centimetres. In four cases the foot could not be used in walking.

The partial excision (*i. e.*, the removal of the articular end of either the tibia or the fibula or the astragalus.) was executed in forty-seven cases, with thirty-three recoveries and fourteen deaths. Secondary amputation became necessary in two cases, one of which died. The shortening varied from 2 to 10.5 centimetres. The functional result in the thirty-two cases: three patients had good, active motion in the joint, and could walk well with the foot; twenty-five patients recovered with anchylosis, but had a more or less good use of their foot, while three patients could not use the foot at all.

Pirogoff's operation was recorded twenty-nine times, with thirteen deaths; *Syme's operation* was performed fourteen times, with five deaths; *amputation of the leg* was performed one hundred and forty-five times, with sixty-one deaths.

Treatment of Gunshot Wounds of the Elbow Joint in the Franco-German War. DOMINIK. (*Deutsche Militaeraerztl. Zeitschrift*, 1876; *Centralbl. f. Chir.*)

For this paper the author has collected from the official lists all the wounds of the elbow joint treated in the military hospitals established during the last war. He also gathered from the medical journals all those cases of excision of the elbow which were treated in other quarters during the war, and consequently were not contained in the official lists. By this labor the author believes he has obtained nearly a complete list of all the operations performed on the elbow joint by German surgeons in the German hospitals. As to the ultimate result of the treatment, the author's information is mainly drawn from the examinations of the invalids at the pension office during the years 1871 to 1873. In regard to French soldiers, he gathered some valuable information from Chenu "Apercu historique statisque et clinique sur le service des ambulances et des hôpitaux pendant la guerre de 1870–1871." In this way the author succeeded in obtaining information of the ultimate result in 263 cases of excision of the elbow.

1. The *conservative treatment* of the gunshot wounds of the elbow during the wars from 1848 to 1866 shows an aggregate mortality of 46.8 per cent., the excision 21.1 per cent., and the amputation 33.3 per cent. During the last war the results of the conservative treatment were far better because the lighter lesions only were put under this treatment, and whenever any untoward symptoms appeared, secondary excision or amputation were performed. For these reasons but fifty-one cases could be collected which were conservatively treated to the last, of which 5=9.8 per cent. died.

In a table, the writer classifies the functional results of 163 cases of gunshots of the elbow, treated conservately during modern wars: Free mobility in 10 cases (mostly flesh wounds, without lesion of the bones); incomplete anchylosis in 18 cases; complete anchylosis in 133 cases; result unknown in 2 cases.

The 133 cases of complete anchylosis were divided in: 1, hand and fingers could be used in 12 cases; 2, hand and fingers were paralyzed in 49 cases; 3, functions not stated in 72 cases. From all this, the author concluded that the conservative method, though generally applied to the milder lesions, did not yield a favorable result. It almost invariably terminated with anchylosis.

2. The *excision of the elbow* for gunshot wounds was performed in 400 cases, with 90 deaths; pyemia and septicemia, 68; trismus, 1; diphtheria, 3; gangrene, 1; erysipelas, 1; pneumonia, 3; exhaustion, 2.

The ultimate result noted in 263 cases, was as follows:

Good, active motion of elbow joint, in 28 cases;

Limited motion of elbow joint, good use of hand, in 35 cases;

Anchylosis (without further data), in 43 cases;

Anchylosis, good use of the hand, in 55 cases;

Anchylosis, paralyzed hand, in 31 cases;

Incomplete anchylosis, paralysis of hand, in 6 cases;

Loose joint, useful hand, in 24 cases;

Loose joint, no use of hand, in 41 cases;

As to the bone excised, the statistics of the writer tend to prove that the best functional results are obtained by the excision of the epiphyses of the fore-arm, while the epiphysis of the humerus is preserved. The excision of one bone of the fore-arm is most frequently followed by anchylosis, while the excision of the end of the humerus is the most frequent cause of a dangling arm.

3. *Amputation of the arm* for gunshot wound of the elbow joint. The writer compiled 137 cases of this operation, with 48 deaths, and 167 cases of the same operation for other injuries, with 53 deaths. The mortality of the amputations performed on the first day, was 22 per cent.; on the second day, 55 per cent.; from third to sixth day, 26 per cent.; and later than the first week, 39 per cent.

IV. Otology.

A New Method of Treating the Acute Inflammation of the Middle Ear. Sam. Sexton. (*N. Y. Med. Record*, 1877, p. 17.)

Last September, the writer had under his care a young man who was quite deaf with catarrhal inflammation of the middle ear, and who, at his first visit, stated that, one week ago, while bathing and immersing his head under water, he felt a sharp crack in his ear, and immediately he could hear quite well, but after the lapse of two days the deafness gradually returned. As this temporary improvement of hearing had to be attributed to the pressure of the water upon the membrana tympani, the Doctor decided to try the effect of gentle pressure upon that membrane by means of condensed air. For this purpose he devised a simple instrument, consisting of a soft rubber bulb, connected by a flexible tube to a hard rubber nozzle, which is somewhat olive-shaped and adapted to fit into the entrance of the external auditory meatus. When used, the nozzle is held to the ear by the left hand, and pressed against the opening with sufficient force to make the fitting as nearly air-tight as possible; while the bulb is held in the right hand, to be manipulated as desired. When using the instrument, it is of course never to be forgotten that the membrana tympani is ordinarily never stimulated to action by a greater force than the wave pulses of the air, and that the organ of hearing may be injured by too great force. When thus carefully used, the danger of injury is not so great as by Politzer's inflation, especially in cases where the tubes are freely open. When the instrument is to be used for suction—rarefaction—for instance, to draw out a membrane much depressed, the bulb is simply collapsed by pressure of the right hand before the nozzle is applied to the ear. Upon removing the pressure of the hand, the bulb, by its own elasticity, gradually resumes its expanded condition—thus rarefying the

air in the m. externus. If it is desired to give the m. t. and ossicula motion, the bulb is alternately compressed and expanded while the nozzle is in contact with the ear.

The remark is here suggested that if the object of forcing air into the cavity of the tympanum, by means of the catheter or Politzer's experiment, is to remove secretions from that cavity, the result may be frequently of quite an opposite character, *i. e.*, the mucus of the Eustachian tubes may be driven into the tympanic cavity.

If the contents of the tympanum be of such consistence as to be readily driven out at all, it may in many instances be accomplished, to some extent, by pressure upon the m. t. from without.

In infancy and childhood, the difficulties in the way of using the catheter, or Politzer's experiment, are only too well known. But the cavity of the t. may be freed in some measure by pressure from without. My experience is that it always relieves the pain which results from inflammation and the accumulation of serum in the t., where the most free nervous distribution is to be found.

Adhesions can in no other way be so well prevented, or broken up when formed; for the movement of the m. t. may be kept up when other means cannot be resorted to. The extent to which this movement can be carried with benefit is considerable; and when we observe a membrana tympani so concave that it touches the promontory of the t. in one case, or is bulged out by secretions in another, we can judge somewhat of the capacity of these parts for tension without injury. Sometimes the ear is too painful or tender to permit the application of the instrument; its use then is not to be thought of; but the inflamed membrana can be acted upon in most cases without pain or injury.

It is not unlikely that the frequent (daily) pressure upon the m. t. in many cases may excite the movement of serum along the c. t. towards the pharynx, and thus keep the t. free of hurtful collections. That this is the natural outlet for the secretions of the t. cavity, there can be no doubt. When tinnitus aurium depends upon the adhesions between the malleus and m. t., and between the ossicula and the stapes and fenestra ovalis, may not much benefit arise from exercising, as it were, this mechanism?

The air forced into the t. cavity through the Eustachian tubes does not perform this so well, and cannot be done with the same ease and gentleness.

The frequency of the applications must be determined by the results as derived from experience.

The congestion of the m. t. is not as marked after this operation as is sometimes the case after syringing—usually, there is none. The hearing power in nearly all cases of deafness will be increased in as great a degree as by any other means we are acquainted with, and in many instances benefit is found where other means do not avail. I am aware that many otologists have made valuable suggestions as to the use of condensed and rarefied air, but I believe none have recommended its use, in acute aural catarrh, in the manner here indicated.

Nitrate of Amyl in Tinnitus Aurium. MICHAEL. (*Arch. Ophthalmol. and Otol.*, vol. v., 4.)

In many diseases of the ear, the tinnitus is the symptom which causes the patient more annoyance than the impairment of the hearing; and in a large number of cases it does not subside with the disappearance of the causative disease. Dr. Michael, of Hamburg, has tried the nitrate of amyl for the relief of the tinnitus. He was led to employ this remedy on account of its well-known sedative action upon the sympathetic system, especially the vaso-motor nerves, and the fact that many forms of tinnitus are caused by an irritative state of the auditory nerve, or are the result of hyperæmia, or anæmia of the brain, or the internal ear.

He administered the nitrate of amyl in twenty-seven cases. The results were as follows: A greater or less degree of improvement was obtained in nineteen cases. Among these were three in which the tinnitus disappeared entirely from one ear and was diminished in the other ear. In four cases, a by no means inconsiderable improvement of the hearing was observable. Three cases passed from observation. In the majority, there was an otitis media hypertrophica; of the cases not improved, one; and of those improved, two were diseases of the labyrinth.

From one to five drops were inhaled at a sitting. The inhalation was continued during the appearance of the usual symptoms (flushing of the face, injection of the blood vessels of the eye), and suspended on the occurrence of vertigo. In all the cases improved, the tinnitus was increased during the period of inhalation. As the flushing of the face disappeared, the tinnitus diminished and became less than before the administration. In some cases the improvement lasted but one hour; in others, several weeks, but usually from two to ten days. The effect of a second inhalation lasted longer than that of the first application, provided it did not follow the latter too soon; an interval of two days at least must be allowed. The remedy, of course, is not appropriate for acute catarrhal cases, or others in which the tinnitus is evidently of a mechanical origin.

A New Artificial Membrana Tympani. L. TURNBULL. (*Phil. Med. and Surg. Rep.*, Dec., 1876.)

The modifications suggested by T. consist in making the stem of steel, and covering it with a thin layer of rubber; at the end of this stem is a light metal ring, bearing stretched across it a thin rubber membrane. The advantage claimed for this artificial drum is, that the stem being attached, not to the centre, but to the circumference of the membrane, the latter can respond better to the impulses of the waves of sound and convey their whole intensity to the inner ear.

On the Diagnosis of the Anomalies of the Conduction of Sounds in the Ear. PROF. GRUBER. (*Allg. Wiener Med. Ztg.*, 1877, No. 7.)

The conduction of the sounds may, among other causes, be disturbed by an irregular tension of the membrana tympani. An abnormal relaxa-

tion, or an excessive tension of this membrane must interfere with the normal function of the organ of hearing. The relaxation of the membr. tymp. (or of a portion thereof), can be diagnosed by inspection. If the patient forces air into his ear by the Valsalvian experiment, while we are looking at the illuminated drum-head, we can plainly see the membrane make a decided outward movement. In several such cases, it was also ascertained that the hearing was decidedly improved after the experiment (*i. e.*, after the membr. tymp. had obtained a better tension), but that this improvement gradually disappeared again when the membrane returned to the former relaxed state.

The opposite condition of the membrana tympani, its increased tension, in many cases, cannot be ascertained by ocular inspection, because we have no efficient means of relaxing an abnormally tense drum-head. In this case, the tuning fork proves to be of great value.

A few years ago, Gruber found that the tone of a tuning fork held opposite the external meatus, grew fainter when he inflated his middle ear by the Valsalvian experiment, and thereby increased the tension of the membrana tympani; and as soon as the inflation was discontinued and the membrane returned to its natural condition, the tone of the fork became louder again. Consequently, if to a patient the sound of the fork held opposite his ear does not decrease in intensity during, and again increase after, the Valsalvian experiment, we can infer that, the tension of his membrana tympani has not been increased by the inflation of air, because it has before already been abnormally great. This experiment, however, is not free of errors, because we are wholly dependent upon the patient's statements, and his capacity of making correct observations. These statements must, therefore, be controlled by another test. For this purpose, the tuning fork is placed on the middle of the forehead, and again the patient makes the Valsalvian experiment.

Where no abnormal tension existed in the membr. tymp., the patient will hear the sound of the tuning fork better during the experiment, because the waves of the sound that have been conveyed through the bones of the skull to the air of the middle ear are reflected back on the membr. tympani, while its tension has temporarily been increased by the inflation. As soon as this artificial tension is reduced by the cessation of inflation, the waves of sound which have reached the middle ear are no longer reflected, but pass out through the normal membr. tymp. to the air of the external meatus; the patient then hears the sound considerably fainter. In case of an excessive tension of the membrane the intensity of the sound of the tuning fork put on the head will not be materially altered by the inflation of the middle ear, because it does not materially change the tension of the membr. tympani. Thus, by this double test with the same instrument (tuning fork), and during the same experiment (Valsalva's inflation) the patient receives, apparently, conflicting impressions, according to whether the tuning fork is held opposite his ear or put on his head.

ANNOUNCEMENTS FOR THE MONTH.

MONDAYS. SOCIETIES.
Mondays, April 2 and 16.—Chicago Medical Society. Regular meetings.
Mondays, April 9 and 23.—Chicago Soc. of Phys. and Surgeons. Regular meetings.
CLINICS. *Every Monday.*
At Eye and Ear Infirmary, 2 P. M.—Prof. Holmes.
At Central Dispensary (Wood and Harrison sts).—2 P. M. *Gynecological*, Dr. Adolphus; 3 P. M. *Diseases of Children* Dr. R. S. Hall.
At Mercy Hospital—2 P. M., *Surgical*, Prof. Andrews.
At Rush College—2½ P. M., *Medical*, Dr. Bridge.
At Chicago College. 2 P. M. *Gynecological*—Prof. Merriman.
LECTURES. *Every Monday.*
At Rush Medical College (Harrison and Wood sts.)—9 to 1 o'clock, Drs. Wadsworth, Jackson, Danforth and Knox. At Chicago College—8 to 11, Profs. Rutter, Jewell, and Curtis; 3½, Nelson.

TUESDAYS. SOCIETIES.
Tuesday, April 10.—Academy of Science. Regular meeting at 8 P. M. (263 Wabash av.)
CLINICS. *Every Tuesday.*
At Eye and Ear Infirmary—2 P. M., Prof. Jones.
At County Hospital—2 P. M., *Medical*. Prof. Bevan. At 3 P. M., *Surgical*, Prof. Bogue.
At Mercy Hospital, 2 P. M. *Medical*, Prof. Hollister.
At Chicago College—2 P. M., *Gynecological*, Prof. Roler.
LECTURES. *Every Tuesday.*
At Rush College—9 to 1, Drs. Owens, Bridge, Strong and Case. At Chicago College—9 to 11, Profs. Jewell and Byfo d.

WEDNESDAY. CLINICS. *Every Wednesday.*
At County Hospital—2 P. M., *Ophthalmological*, Dr. Montgomery; 3 P. M., *Gynecological*, Prof. Fitch.
At Chicago College—3 P. M., *Gynecological*, Prof. Nelson.
At Mercy Hospital—2 P. M., *Ophthalmological*, Prof. Jones.
At Central Dispensary—2 P. M., *Surgery*, Dr. Loomis; *Diseases of Chest*, Dr. Ingals; 3. *Gynecological*, Prof. Etheridge.
LECTURES. *Every Wednesday.*
At Rush College—9 to 1, Drs Wadsworth, Ingals and Sawyer. At Chicago College—9 to 11, Profs. Hyde and Steele; 3½, Andrews.

THURSDAYS. CLINICS *Every Thursday.*
At Eye and Ear Infirmary—2 P. M., Prof. Hotz.
At Mercy Hospital—2 P. M., *Medical*, Prof. Davis.
At Rush College—2 P. M., *Medical*, Prof. Ross; 3 P. M., *Diseases of the Nervous System*, Prof. Lyman.
At Chicago College—2 P. M., *Gynecological*, Prof. Merriman.
At Central Dispensary—2 P. M., *Surgical*, Dr. Graham.
LECTURES. *Every Thursday.*
At Rush College—9 to 1. Drs. Hayes, Bridge, Strong and Case. At Chicago College—9 to 11, Prof. Quine and Steele; 3½, Davis or Johnson.

FRIDAYS. SOCIETIES.
Friday, April 13.—State Microscopical Society of Illinois. Regular meeting, 8 P. M.
CLINICS. *Every Friday.*
At County Hospital—2 P. M., *Medical*, Prof. Bevan; 3 P. M., *Surgical*, Prof. Bogue.
At Mercy Hospital—2 P. M., *Medical*, Prof. Davis.
At Chicago College—2 P. M., *Gynecological*, Prof. Roler.
At Central Dispensary—2 P. M., *Diseases of Chest*, Dr. Harroun; 3 P. M., *Dermatological*, Dr. Maynard.
LECTURES. *Every Friday.*
At Rush College—9 to 1, Drs. Wadsworth, Jackson, Strong and Knox. At Chicago College—8 to 11, Profs. Jones, Hyde, and Curtis; 3½, Bond.

SATURDAYS. CLINICS. *Every Saturday.*
At Chicago College—2 P. M., *Surgical*, Prof. Andrews or Isham; *Gynecological*, Prof. Nelson; 3 P. M., *Medical*, Prof. Johnson.
At Rush College—2 P. M., *Surgical*, Prof. Gunn.
LECTURES. *Every Saturday.*
At Rush College—9 to 1, Drs. Owens, Bridge, Sawyer and Danforth. At Chicago College—8 to 11, Profs. Merriman, Quine and Byford; 3½, Hollister.

At all the above named Clinics visiting regular practitioners are, we believe, admitted.

At the South Side Dispensary (Chicago College) there are six daily special Clinics, for sections of the classes of the Chicago College.

The Spring Course of Rush College begins March 7th. The Winter Course of the Chicago College ends March 20th.

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Original Communications.

A SIMPLE MODE OF CLEANSING THE NASAL AND PHARYNGO-NASAL PASSAGES.

BY THOMAS F. RUMBOLD, M. D., St. Louis, Mo.

The greater number of those patients who are afflicted with chronic catarrhal inflammation of the mucous membrane of the nasal passages, will require, in the early part of their treatment, frequent cleansings of these cavities. As the period between the applications which the physician gives, is frequently so long that the membranes become loaded with accumulated secretion, the patients must attend, in the interim, to the cleansing and to the application of such remedies that can be safely intrusted to their care.

Whenever a collection of muco-purulent secretion is allowed to remain in the nasal or pharyngo-nasal passages, for a length of time, varying from a few hours to a day or more, it becomes fœtid, and acquires an acrid property; this quality is the result of a kind of fermentation, which the heat of the parts causes or favors. If such vitiated secretions are allowed to remain on the mucous membranes, their acridness will aggravate the inflammation. These facts indicate both the

necessity of maintaining the catarrhal surfaces in a clean and disinfected condition, and of the patients being instructed as to the most effective mode in which this cleansing may be done.

While it is essential to speedy recovery, to have the nasal passages maintained in a clean condition, it is also equally essential that the means employed in the removal of the secretions should not cause an irritation that will last beyond a few seconds. A sensation of relief should be experienced immediately succeeding each application.

The simplest mode of performing the ablution of the passages, in question, is by means of inhaling water and air from the palm of the hand into the nostrils. This manner of cleansing is sufficiently effective, for all patients whose secretions do not become locked in the nasal cavities by reason of their hardness or size.

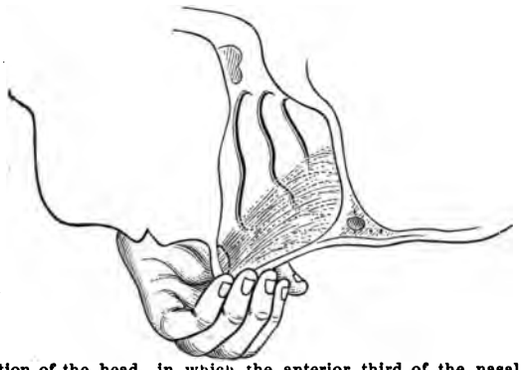
It does seem as though it would require but little instructions to enable the patient to successfully perform this inhalation, aside from the directions given with regard to the ingredients, the strength and the temperature of the solution used; but it will be seen from the description of the method recommended, that the patient might not adopt it, without being so directed.

During inspiration through the nostrils, the course of the greatest volume of the stream of air that enters these cavities, is not parallel with the bridge of the nose, nor does it pass along the floor of the nasal passages, but nearly between these two boundaries, which course is generally at an angle of about 45° with the plane of the forehead. If we keep in mind, that the tendency of the stream of inhaled liquid, is to take the same direction that the air does, and that the water, because it is heavier than the air, will deviate from this course by gravitation, we have only to place the head in certain positions, to be enabled to wash or bathe the entire surface of these triangular shaped cavities, except the inferior portions of the turbinated processes.

To reach the anterior third of the nasal cavities, the head of the patient should be inclined forward to such an extent, that the plane of the forehead will be nearly in a horizontal

position (Fig. 1); then the stream inhaled from the hand,

FIG. I.



First position of the head, in which the anterior third of the nasal passages is washed by the inhalation of water and air from the palm of the hand.

will go upward and forward at an angle of 45°. In this position of the head, gravitation causes a part of the inhaled solution to fall on the most anterior portion of the passages. After the inhalation of one or two handsful, the patient should blow the nose, to free it of all liquid and loosened secretions. Continued and hard blowing of the nose should, however, be avoided, as this is liable to force mucus up the Eustachian tubes, as well as to aggravate the congestion of the inflamed mucous membrane.

To wash the middle third of the nasal passages, the head should be inclined forward until the forehead is placed at an angle of 45° with the horizon (Fig. 2), then the greater part

FIG. II.

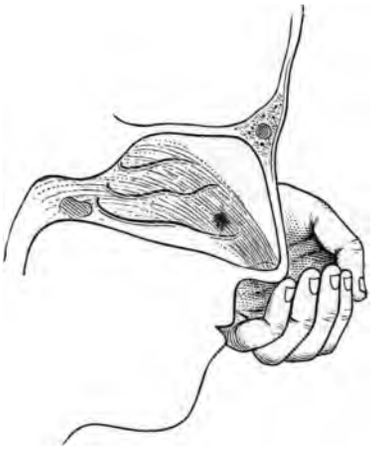
Second position of the head, in which the middle third of the nasal passages is washed by the inhalation of water and air.

of the stream of inhaled air and liquid will enter the cavities in a vertical direction, striking the superior portion of the cavity, but gravitation will divert a part of the fluid forward, and a part of it backward, of the vertical line.

Again the loosened secretions should be blown out.

In the third position of the head, the forehead should be placed in a vertical position (Fig. 3); then the stream of air

FIG. III.



Third position of the head, in which the posterior third of the nasal passages is washed; and also the upper surface of the soft palate and the posterior wall of the pharyngo-nasal cavity.

and fluid will enter the cavities at an angle of 45° with the horizon, going upward and backward. Gravitation, in this case, instead of causing it to fall forward, as it did in the first position, will cause a part of the solution to pass along the floor of the passages, thus washing the remaining third of the surfaces. Again all liquids and loosened secretion should be blown out. In the first and second positions, the inhaled liquid will come out of the nostrils in front; but in the last position, all of it will come out from the mouth.

While the head is in the third position (Fig. 3), it is possible for the patient to inhale the solution with sufficient force, to cause a part of it to strike the posterior wall of the pharyngo-nasal cavity: if so, the surface of this cavity, with that of the pharynx and upper surface of the soft palate, will be washed

also. In this way, the patient can remove the tenacious mucus adhering to these surfaces, which removal cannot be accomplished by any other effort he can make, for the reason that the mass of accumulated secretion is located above the place reached by the movements of the tongue, or soft palate, or the force of the breath in hacking or rasping the throat. Patients, in their endeavor to remove this adhering mucus, usually have severe "coughing spells" in the morning, as they turn their efforts to clear the throat, but these efforts do not rid the mucous surface of the offending matter; this removal is accomplished only when they continue to cough long enough to induce gagging efforts, which efforts are accompanied by a qualmish condition of the stomach, and a copious flow of free mucus; it is this fresh flow of liquid mucus that accomplishes the removal of the adhering mass, by washing it away from its place of lodgment. The attempt to remove this tenacious secretion by the old gargling method, must always fail, because this method cannot throw the liquid, employed, to the location desired; it can only wash the tonsils, the anterior surface of the soft palate, the base of the tongue, and a small unimportant portion of the fauces.

Those patients who cannot clear their throat with the first course of inhalation from the hand, and whose cough is continued so long, by the presence of the lodged secretion, that it produces a gagging sensation, should lie down in bed for a few minutes, as the recumbent position will usually relieve this disagreeable symptom. After the sickness of the stomach has passed off, and the solution inhaled has loosened the adhering mass, they will be enabled to clear the throat by another course of inhalation.

During the last eleven years, I have recommended this method to my patients, they have found that it had a very beneficial effect, always freeing the nasal and pharyngo-nasal passages of the accumulated secretions.

The number of times that these inhaling operations should be repeated, is a matter of some importance. We must keep in mind that the nasal passages are not made to receive any kind of liquid, and that the lining membranes absorb, to their injury, more or less of every fluid that comes in contact with

them. 'The reason why the medicated solution is a benefit, is, because it acts as a solvent to vitiated secretions that are far more deleterious to the mucous membranes, than the effect of the absorption of the liquid itself: it follows, therefore, that just so soon as the decomposed secretions are removed, the solution, if continued, will be a means of doing harm. In other words, the washing out of these cavities is but a choice between two evils, the use of the solution being the lesser. It is evident, then, that the sooner the lesser evil is discontinued, after the greater evil has been removed, the better it will be for the mucous membranes.

After the surfaces have been made clean, the washing should be stopped, even though it produces a pleasing sensation, because the absorption of the water causes the membranes to become swollen, in which condition they are more susceptible to the deleterious influences of cold.

If at any time the inhaled liquid produces a painful sensation, which lasts beyond one or two seconds, then it should be discontinued, even if the passages are not entirely cleansed. With such cases, a few partial washings, aided by the local applications, made by the physician, will decrease the heat of the parts, that is the cause of the hardening of the secretions; then the cleansing can be completed without producing the least disagreeable effect.

Patients in whose nostrils or throat dry masses collect, should inhale three handsful of the solution immediately on getting out of bed in the morning, placing the head in the three positions named; this will soften the mass a little; by the time they have completed their toilet, they will probably be able to cleanse the head by a second course, *i. e.*, with three handsful more. During the early treatment of a bad case, three and four courses may be required in the forenoon.

The solution to be inhaled from the hand is composed of common table salt and water, that is a little warmer than blood heat, about one teaspoonful of the former to a pint of the latter. Patients will soon learn, from experience, whether or not this is the proper strength or temperature, when they are informed that water, either without salt, or with too much in it, is productive of more or less pain, and that the right

quantity (which varies with different individuals) produces a pleasant bland sensation; also, that cold water causes a disagreeable as well as an injurious effect.

For those cases whose nasal secretions are offensive, five grains of salicylic acid should be added to the pint of warm salt water.

1225 WASHINGTON AVENUE.

TRAUMATIC TETANUS.

BY EZRA READ, M. D., of Terre Haute, Ind.

[Read before the Indiana State Medical Society.]

Throughout my professional life, since by study, reflection and experience I had carefully settled the question in my own mind, I have declared in public and in private circles, that *traumatic tetanus* was incurable by any of the remedies now known.

I made this declaration before this learned association at its last meeting; but as Solon said that he learned something in his old age, every day, and continually advanced in the paths of knowledge, I trust it may not be deemed affectation to assert that I have, in the last four months, learned at least one fact, that traumatic tetanus is curable. Prior to this time, in nearly half a hundred cases within my own observation, every one terminated in death, and I came to distrust reports and written opinions to the contrary.

As this disease has existed from the beginning of mankind upon earth, and will to the end, it may not be unbecoming or uninstructive to render to those I have the honor of addressing, a brief collection of the opinions upon the subject of some of the eminent physicians who have preceded us; especially as I am incapable of advancing those of my own upon a matter so unsettled by the profession.

No writer upon this disease, known to me, is earlier than Hippocrates, and, for all practical purposes, that is far enough back. In his aphorism relating to this, he says: "Spasm supervening upon a wound is fatal," and in another: "Such

persons as are seized with tetanus die within few days, or, if they pass these, they recover." His method of cure was venesection, strong Cretan wine, bathing the legs and feet in hot water, and the arms, and hands, the spinal column in its entire length from neck to sacrum to be wrapped in skin smeared with wax. Intervals were used for the application of hot fomentations, by means of leather bottles filled with hot water, and covering up in the bed.

He recommended the use of the bryony, in fragrant wine, and carrot, to be given to the patient early in the morning, fasting. Prior to and succeeding this, warm barley gruel was to be used and diluted wine.

The bryony is said to be a thorough and hydragogue cathartic, and strongly diuretic.

He concludes by saying, "If the disease yield to these means, so much the better, but, if otherwise, you must prognosticate accordingly." I do not know that it may be regarded an unfavorable reflection upon the profession to say that this method of cure has not been much improved since the above was written.

Celsus coincided with Hippocrates in relation to the danger of this disease, and that it usually proved fatal before the fourth day. Living beyond that time was favorable to recovery. He differs with Asclepiades, who advocated bleeding, but recommended scarification and cupping upon the neck, and burning it with the actual cautery, or corroding it with mustard.

He gave castor, and pepper and clysters, and applied hot fomentations of water to the neck, and also anointed these parts with liquid cerate, and then applied ox bladders, or bottles, filled with hot oil, or a hot meal poultice, or round pepper bruised with figs, also a fomentation with moist salt.

He recommended the neck, shoulders and spine to be thoroughly rubbed with old oil, the hair to be closely cut, and the head moistened with hot orris oil, or that of cypress, and to be covered with a cap.

Friction, though serviceable to all the vertebrae of the body, is particularly so to those of the neck, and should be resorted to *die nocteque.*

Food, requiring mastication, should be for a long time avoided; gruel, soft and fresh boiled eggs are to be used, and at later convalescence, wine. All cold should especially be avoided, and warmth carefully preserved.

These eminent physicians will thus be observed to have had corresponding views upon this disease, and did not widely differ from all since.

Paulus Aegineta recites, among other symptoms, a moaning respiration, pulse small, red face, eyes protruded, and sometimes a sardonic laugh, with scanty urine, and occasionally singultus. He regards the supervention of fever to be favorable, as did Hippocrates, Galen and Avicenna. The treatment recommended is very similar to that of the writers already quoted. Hot applications to the neck, bleeding, hot oil bath, cupping, musk, assafœtida and gum ammoniac.

He agrees with Hippocrates that cold water affusions are hazardous remedies. This was recommended by Dr. Currie, of Liverpool, but abandoned, and was not adopted by the profession.

Aetius, Aribasius and their cotemporaries, recommended bleeding, hot fomentations, and the oil bath, made by adding one-fifth oil to water. Arctæus describes tetanus to be painful, sometimes proving speedily fatal and *always difficult to cure.* His treatment was soothing and relaxant, with hot applications, a warm, soft bed, bleeding, cupping and suppurative applications to the wound. Cadius Aurelianus, Haratianus and others of this age, adopted this method.

The Arabian physicians, Avicenna, Albucasis and Rhazes adopted the Greek method, and, in fact, the whole medical world since. The disease has been obscure, with like treatment.

I come now to the modern views of surgeons upon this disease, its derivation being from the Greek word *teiro*, to stretch, implying that condition of the muscles of the spine, their terminal tendons, either drawn forward, emprosthotonos, or backwards, opisthotonos. It is an involuntary spasmodic action of the muscles of the spinal column, from a punctum saliens, inducing such condition through nervous action.

Tetanus is usually of gradual invasion, but a case is recorded by Professor Robison, of Edinburgh, of a negro, who had wounded his thumb, from which he died of tetanus in fifteen minutes, but this seems so unreasonable that it is unworthy of credit, noted as it is by a gentleman so respected for his professional attainments.

Stiffness about the neck, which increases to the extent of rendering the motion of the head difficult and painful; an uneasiness felt at the root of the tongue, rendering mastication of food, or swallowing of liquids painful or impossible, causing convulsive action, and the disinclination to make the attempt, are prominent and alarming symptoms. There is severe pain at the bottom of the sternum, which darts from this point backwards in the direction of the spine. Violent spasms seize all the muscles of the neck, and the head is drawn forwards or backwards, in obedience to the greater or lesser action of the flexor or extensor muscles. The inferior maxilla is drawn more rigidly to the superior, and the jaws are fixed, are locked. It is the characteristic and unmistakable symptom of the disease, its pathognomonic culmination. This spasmodic condition returns at short intervals, induced by the least possible excitement, as attempting to swallow, or being touched, or moved, or quickly spoken to, and always attended with most excruciating pain. The head is incapable of lateral turning, the arms are rigid and fixed, the legs are rigid. The abdominal muscles are so rigidly contracted that the belly feels hard and tense; the tongue loses its volition, and is spasmodically thrust forwards between the teeth, to be torn and lacerated by violent spasms, unless properly protected. In its severe form, the muscles of the face are contracted, the forehead is drawn into furrows, the eyes distorted, fixed and motionless, the nose is drawn up, the cheeks are retracted towards the ears, and the whole expression is painfully changed, and not unfrequently there is a wild, sardonic grin upon the face.

There is little or no fever; the surface is usually bathed with sweat, especially about the face and forehead; the pulse is hurried and small, generally above one hundred; the secretions are but little changed. Sleep almost entirely forsakes the patient, from convulsive interruptions, and the whole con-

dition is that productive of pity and pain to physician and attendants.

The modern writers who have had the largest experience in this disease, concur in the opinion of its imminent danger, and the general methods to be observed in its treatment. Sir James McGregor, the Chief British Army Surgeon in Spain and Portugal, and Baron Larrey, both had large experience in hot climates, and from gunshot wounds. The former, in his report, says it occurred in every description and stage of wounds from the slightest to the most formidable; it followed the healthy and the sloughing, the incised and lacerated, the the most simple and the most complicated, and occurred at uncertain periods, but after twenty-two days, but little apprehension was to be had. It attacks all ages and conditions, but infants and the middle-aged are most liable. The feeble and weak are said to be less liable, and the female than the male.

Although a disease of all climates and all seasons, it is most common in marshy districts, bordering upon the sea, and in the hot months of hot climates, where it is an ordinary consequence of all wounds. Cold and moisture are recognized agents in inducing the disease, after wounds, and especially when applied to the surface in a heated condition. All atmospheric vicissitudes are aiding conditions.

In our present state of knowledge, we cannot indulge the hope of much success in the treatment of this disease. All remedies have been tried and with limited success.

The knife itself reveals no lesion after death. A little redness of the mucous surface of the œsophagus and the cardiac region of the stomach alone exhibits increased vascularity, and slight vascular inflammation, with contraction of the pharynx and œsophagus. In fact, no injury of any part or organ develops sufficient cause of death.

It must, therefore, be sought for in the nervous system, and the result of the shock to this tissue, which checks the machinery of life without a morbid trace to direct the mind to the invaded part.

Larrey, McGregor, and others scarcely less eminent, have resorted to amputation repeatedly, with the hope of relief, but in not one single instance was it of any use whatever. The

division of the nerve has, in like manner, been made, with like results. As the wound is generally healed before the spasm sets in, or, if open, the suppuration diminishes, irritating substances have been applied to restore the inflamed condition of the wound, and it would seem a most reasonable means.

Doctors Rush and Hosack advocated the use of stimulants, and especially of wine. Barks and wine have been used; calomel, and all antispasmodic remedies,—blisters, cupping, tobacco clysters, the cold and hot baths, and, in fact, every remedy which could suggest itself to anxious and inquiring minds.

In Jamaica, and other West India Islands, the cold bath and opium have been favorably mentioned. Dr. Drummond, of the former island, says, "I am of opinion that opium and cold baths will answer every intention in tetanus and such like diseases, for while the opium diminishes the irritability and gives a truce from the violent symptoms, the cold bath produces that wonderful tonic effect so observable in this and some other cases." "Perhaps bark and wine joined with these would render the cure more certain." The method of using the cold bath was to plunge the patient in cold water or the sea, wipe dry, put to bed, and administer twenty or thirty drops of laudanum.

Opposed to this, by eminent British surgeons serving in Spain, is the opinion that they had found the "cold bath worse than useless."

Baron Larrey killed one patient with the cold bath, and it stands condemned by Hippocrates, Cullen, Callison, and the majority of intelligent surgeons in every age. Its utility, I think, is doubtful in all convulsive diseases, and I am not sure but that my friend, Dr. Swafford, and myself, in our army practice, hastened the death of a poor soldier in Alabama, by means of a cold shower bath. In addition to the internal use of mercury, even to salivation, the mercurial friction has been by some recommended, but has found *its* objectors in the cases of Drs. Guthrie and Emery, army surgeons, who used it in unlimited quantities, without any success whatever.

In speaking of Dr. Rush's views of stimulants, I should have mentioned his opinion to have been, that it is a disease

essentially connected with debility, and he recommends most powerful stimulants of brandy, wine, ether, preparations of ammonia, bark and cordials, with dilatation of the wound, and a dressing of oil of turpentine to it. The use of Prussic acid has been repeated with favorable results. Blistering along the entire spinal column has been extensively and successfully used, and is, perhaps, the best known external application. It commends itself, I think, to the approbation of intelligent physicians everywhere, and has at least some reason and philosophy in its *methodus medendi.* Having presented the prominently received opinions of the medical world, I now present the following case, but just recovered.

Michael N., a native of Terre Haute, of Irish parentage, well grown and healthy, and a machinist by trade, was at work in one of the shops in St. Louis, and while holding a piece of railroad iron in the act of being cut, a fragment was thrown off, passing through the muscles, filling the space between the thumb and forefinger. The laceration was slight, with but little pain. He consulted a physician, who applied the tr. of arnica, and in six days it was completely healed. He returned to his home in this city, and, being upon the street on the evening of the 25th of August, (he was wounded the 16th of August) and creating more noise than the law allows at a political gathering, he was arrested and confined in the station-house four days. He had two chills, while confined, and the room being damp and chilly, he was released, and on the 31st of August, fifteen days from date of injury, he was seized with tetanic spasms and stiffened jaws.

I was immediately sent for, and with a stiffened and convulsed patient before me, and a small army lying quietly under the earth from similar condition, I was not much encouraged as to future results, and so expressed myself to the family.

His tongue was already wounded by protrusion, although the convulsions had not reached to the extent which followed.

As presented, he was lying upon his back with a ghastly expression of countenance, his jaws firmly fixed, and all the cervical muscles rigid and hard. His hands were folded across the breast, and immovable. His pulse was 112 and small; surface cool and moist; had no pain; bowels and urinary

organs in healthy condition; had not slept previous night, and seemed and expressed himself to be comfortable in the absence of the spasms, which came on at irregular intervals, from 20 to 40 minutes. His head was constantly drawn backwards, but increased during spasmodic excitement.

He was particularly sensitive to noise and the touch, which invariably excited to spasmodic action. All of the above recited symptoms gradually increased, with the exception of frequency of pulse, which remained the same, varying from 100 to 110—for three days, when the disease seemed to have reached to its fullness, and from that time to resolution, there was scarcely an appreciable change. Reaching its acme, he had pain between the shoulders, and in the neck, loins, and scrobiculus cordis, and extending to the spine in the course of the diaphragm, with a tense and hard belly.

On the fourth day he had the sardonic grin, with retracted cheeks, and forehead drawn into furrows, eyes distorted and fixed, nose drawn up, and a most painful expression of countenance.

In this condition he remained without any fear whatever for thirty days, when the convulsions gradually ceased with a general relaxation of all the muscles which had so long been imprisoned in their rigid cells. During all of this time he and his family declared that he had no sleep; but this, of course, should be received *cum grano salis.*

I can readily understand that the sleep was limited from convulsive interruption, but not that there was a total absence of it. This, like the daily condition, forbids the recital of daily symptoms, and I shall not weary your patience with further details.

The treatment consisted in the administration of 3 grains of calomel daily in 1 grain doses, for five days, with 20 grs. of quinine in 5 gr. doses. This was directed more against the malarial influence, than with the hope of influencing the disease except indirectly by removing this all-pervading poison, which to a greater or lesser extent impresses all other diseases and conditions.

I gave hydrate of chloral for three days, which lessened the frequency of the spasms, but apprehending its cumulative

tendency, I dispensed with it and substituted whisky, and of this he drank three gallons a week, or a little more than three pints daily. He called for it constantly, and was assured in his own mind that this was the very remedy to cure him. I felt myself a greater reliance upon it than any other remedy suggested to my mind, and I am now fully persuaded that the whisky brought about the cure. He was really drunk from day to day, but, like those without disease in like condition, he was happy, and immediately following a convulsive struggle would resume his cheerfulness and strong hope of recovery. During all of his illness I gave him animal broths, beef tea, and corn-meal gruel.

He is now walking around apparently well, but very stiff in the loins and hips.

He has the movement of an old man with rheumatism in the back. He was in my office four days ago, having walked half a mile, and is well, except the stiffness just mentioned.

This is the first case of tetanus that I have ever seen cured, but in the future, and as long as our good sister State of Kentucky continues to manufacture its copper distilled whisky, I shall not pronounce tetanus a mortal and incurable disease.

THE PRESENT STATUS OF MEDICAL SCIENCE CONCERNING THE CAUSES AND PREVENTION OF EPIDEMIC DISEASES.

By N. S. DAVIS, M. D.

[Read to the Evanston Philosophical Association, Feb. 12th, 1877.

In a former paper read to this society, I endeavored to explain the true nature and objects of medical science. It was then claimed that medical science was not a compact aggregation or embodiment of philosophical theories, or dogmas, concerning the nature of disease, and the modus operandi of medicines; but rather an appropriation of the facts and principles of all the physical and natural sciences, so far as they can be made to reveal the causes, nature and tendencies of diseases, and the agents capable of acting either as preventives

or curatives. The physician studies the human system in the same manner, and by means of the same instruments and appliances, that the thorough naturalist studies any other species of animal. He analyzes, or dissects, by means of the scalpel and microscope, all the structures of the body, to ascertain the existence and extent of each structure and organ, and the relations of each part to all the rest. By simple observation and experiment, he endeavors to ascertain the exact function or office performed by each part, and the influence it has over the action of other parts. Having, in this manner, become familiar with the anatomy and physiology of the human system, as a living organization, he endeavors, by the same methods of inquiry, to ascertain in what way the various structures and functions may be altered from their natural conditions, so as to constitute disease. For the latter, instead of being some mysterious entity, or substance, or potency that enters the human system as an enemy, and is to be met, driven out, or neutralized by some specific remedy, administered in accordance with some supposed universal law of cure, is simply a deviation from the natural or healthy standard of action in some structure or organ. Such deviation may consist of increased, diminished or perverted actions, according to the nature of the exciting cause or causes.

And the application of remedies must be governed by the same principles of reason, or common sense, as govern us in all other things. If the morbid action is one of increase or excitement, such remedies should be chosen as would repress or diminish it; if of diminution, such as would tend to sustain or increase it; or if perverted, they should be such as would correct it. And in all cases, the causes that have been operative in producing the morbid conditions, should be removed as far as practicable. And this brings us to one of the leading questions for discussion this evening, namely, how far does medical science, or the present state of human knowledge, reveal to us the exact causes of the more important acute, or endemic and epidemic diseases, such as typhoid, typhus and scarlet fevers, diphtheria, yellow fever, plague, cholera, &c. To the non-professional mind, and even to many of the less thoughtful in the profession, it may seem a very simple and

easy matter to determine the cause or causes giving rise to any particular form of disease.

And if we could rely on the dogmatic assertions of closet speculators and partial observers, we might have every question of causation settled, at least, until it was contradicted by the next theorist.

One of the most transcendental speculators of a past generation, confidently asserted that all chronic diseases, at least, were derived from syphilis, sycosis and itch.

Unfortunately, however, he left us entirely in the dark as to what caused either of this prolific trio of ailments. Another more ignorant founder of a special sect, based his whole system of medicine on two very simple dogmas. The first was that *heat* is life and *cold* is death. The second, that minerals exist in the earth, gravitate downwards, and, if used, would pull men after them into the earth; while vegetables grow upward, symbolical of life, and are, therefore, the only proper remedies. So simple a basis of course required nothing more than steam, Cayenne pepper and "number six" for its superstructure of medication. But if this was the absurd deduction of an ignoramus, not very unlike it have been the theoretic deductions of many who have occupied high places in the profession, and whose writings constitute an important part of our medical literature.

Take, for instance, the theory of Broussais and Rush, that all disease is primarily irritative or excitant, consequently originating from causes of an irritant or stimulating character, and requiring sedative or depressing agents as remedies. Or that of Dr. Chambers, presenting just the opposite view, namely, that all disease is a diminution of life; and, therefore, that all remedial agencies must be such as are calculated to excite or sustain life. Or, to come still closer to the present time, the recent general application of the microscope, in the study of all departments of physical science, and among them those of anatomy, physiology, pathology and etiology, has brought out to view, substantially, a new kingdom of nature, consisting of vegetable and animal germs and organizations pervading the air, the water, and almost everything else that is capable of being brought under the field of the microscope.

As might have been expected from the well-known tendency of the human mind to make coincidences stand in the relation of causes and effects, and to deduce conclusions from partial or incomplete observation of facts, the discovery of some variety of organic germs in the evacuations of cholera patients, in the air and water of malarious districts; in the blood of those laboring under syphilis, scarlet fever, &c.; and in the membranous exudations of diptheria, thrush, and various cutaneous diseases, led to the confident assertion of each successive observer, that the co-existence of these germs was sufficient proof that they constituted the efficient cause of whatever disease they were found associated with. Hence the rapid development and popularization of the germ theories of causation of diseases, and especially of all those of an acute endemic or epidemic character.

As similar germs to those found in connection with certain diseases are known to be developed and multiplied by the chemical process of fermentation, so their multiplication in the human system, or its evacuations, is supposed to be carried on by similar processes. Hence the grouping of a large number of diseases under the general terms, zymotic, or infectious. Assuming the zymotic and germ theories in regard to the efficient causes of disease, it was a natural and not illogical inference that the diseases so caused would be propagated by the reproduction and multiplication of the infectious germs in some one or all of the emanations or evacuations from the bodies of the sick. Hence, to destroy these emanations, or so modify them as to prevent the fermentation and evolution of germs, became one of the chief means for preventing the propagation and spread of diseases. Thus, no sooner had Doctor A. promulgated his discovery of certain supposed peculiar microscopic germs in the evacuations of patients affected with epidemic cholera, than these evacuations were made the medium of spreading the disease throughout the world, by being thrown into privies, mingled with surface water, attached to soiled clothing, and deposited in unsuspected places by travelers. And the well-known class of antiseptics and disinfectants were speedily brought into requisition to intercept the fermentive processes, and thereby render the dreaded evacua-

tions harmless. The same results followed the adoption of the germ theory in relation to all other diseases. Hence, in the many recent letters and discussions in the Chicago daily press, concerning the prevalence of scarlet fever and diphtheria, three out of five of the writers based their thoughts and remedies on the assumption that these diseases were caused by zymotic or germ propagation, and proposed some kind of antiseptic, like the carbolates, sulpho-carbolates, permanganates, chlorates, or sulphites, either as remedies or preventatives, or both.

But what evidence have we that any form of epidemic disease is, or has been, caused by organic germs, either vegetable or animal? I answer, just the same evidence that Samuel Thompson had, that heat is life and cold is death, namely, simple coincidence, nothing more, nothing less. That certain organic germs were discovered in epidemic cholera evacuations, especially after they had been allowed to stand several hours, is true. I have seen the same myself; but that does not prove that they produced the disease.

On the contrary, more extended observation developed the fact that germs of the same identical character were discoverable in the evacuations of ordinary cholera morbus, summer complaints of children, and probably in any serous evacuation from mucous membranes, if treated in the same manner. There is no doubt but Doctor B. discovered organic germs in the blood of his patient laboring under syphilis, and he would have probably discovered the same bodies in the blood of any of his patients not affected with syphilis, had he taken the trouble to have extended his observations that far, before hastening to his conclusion that they were the cause of that vile disease.

The same remarks may be made in regard to the propagation of scarlet fever, diphtheria, &c., by fermentation or germ evolution. Indeed, the whole theory of zymosis and germ developments, as causes of disease, must be regarded in the present state of our knowledge, as only another specimen of hasty generalization, or the deduction of important conclusions from a very incomplete observation of facts.

And the same remark would be true, if applied to all the claims hitherto made in regard to the efficacy of particular remedies as preventives of disease. Take, for instance, the

sulphites, sulpho-carbolates, or belladonna, as remedies administered for the prevention of scarlet fever. Most of you might suppose it a very easy matter to determine their value by simple trial in a given number of cases. And so it would be, if it were a fact that every child unprotected, when exposed to scarlet fever, actually took the disease. But such is not the fact. On the contrary, quite a large percentage of those exposed in every epidemic escape an attack. During the present season, I have been personally acquainted with two large families, each closely connected with quite a circle of other families, in each of which a single child was attacked with severe scarlet fever. The well children were simply kept from free intercourse with the sick ones, the house and sick rooms kept well ventilated and cleanly, and not another child in either family took the disease. Now, if, when the disease first appeared in these families, suitable doses of belladonna or sulpho-carbolates had been given to each of the well children, while the disease remained in the respective houses, and no one had taken it, doubtless both the families, their friends, and perhaps the attending physician, would have deemed their exemption as full proof of the efficacy of the preventive remedy administered, And yet, you perceive that such a conclusion would have been entirely fallacious. It is on just this kind of evidence, however, that the reputation of all the so-called preventive medicines rests. To determine the protective value of any particular remedy, it is necessary that careful observations and records be made during the prevalence of several epidemics of scarlet fever, to ascertain first the ratio of those who escape attacks after exposure, without the use of any drug; and then a parallel series of observations and records in relation to the ratio of those who escape attacks after exposure, under the use of some particular remedy.

It will be obvious to you, that such a mode of investigation would require both time, and more opportunities for observation than often fall to the lot of a single practitioner; and hence to make it entirely reliable, would require the co-operation of several practitioners occupying different localities; but subjecting the results of their observations to a careful comparison with each other.

It must be acknowledged that but few attempts have been made to determine the value of preventive medicines in the manner here indicated. But so far as such attempts have been carried, they have not sustained the reputation of any remedy as a reliable prophylactic.

To those who have given little thought to the subject, it may appear surprising that so little is known definitely in regard to the direct exciting or essential causes of diseases. But no such surprise will be manifested by those who comprehend the complexity of the problems involved.

The human system itself is an exceedingly complex organization, made up of a variety of delicate textures, and a series of organs, the functions of each bearing an important relation to all the rest, and the whole undergoing constant molecular change in two opposite directions, the one carrying the food and drink we take through a succession of changes, until it is converted into blood and flesh, the other converting the materials of the tissues into effete or waste matter, returning it into the blood, to be carried to the organs designed for its elimination, such as the skin, kidneys and lungs. In addition, every part of this complex machinery is pervaded by a system of nerves, delicately sensitive to every impression, either from within or without. If we reflect that this complicated mechanism called man, is continually in contact with, and pervaded by, all the imponderable forces, such as heat, electricity, &c., and surrounded by an atmosphere not only composed of its fixed elements of oxygen and nitrogen, but containing in addition an ever varying quantity of light, heat, electricity, aqueous vapor, and an almost endless variety of emanations, both organic and inorganic, from the surface of the earth, we shall see that every question relating to the action of particular agents as causes of disease, is sufficiently complex to require the greatest care to avoid the adoption of deceptive and erroneous conclusions.

Another difficulty in studying the causes of epidemic diseases arises from the fact that all of them are irregular in the time of their appearance, and temporary in their duration. Hence, unless a permanent system of observation and record is established in a large number of localities, embracing a daily record of the

atmospheric conditions relating to heat, pressure, moisture, electricity, ozone, and direction and velocity of winds; microscopic examinations of the air and water; and a careful record of the date of attack of all diseases, the causes of which are in question, we cannot have in any given epidemic the data necessary for determining what germs, substances, or conditions are peculiar to that epidemic, and what are simply coincident. It will be evident to you all that the continuous co-operation of the meteorologists, microscopists and practising physicians, in such parallel courses of observation, through a series of years, is a work of no little magnitude and difficulty. And yet so long as we are without the results of such observation, we are certainly without the data necessary for determining the essential causes of epidemic, and even endemic, diseases. Again, the well-known temporary duration of epidemic diseases in any given locality or community often leads to errors in regard to the efficiency of sanitary regulations. Almost every epidemic has its period of rise, climax and decline.

Hence if it so happens that after an epidemic of scarlet fever, for instance, has progressed until public attention is aroused and the epidemic has reached its climax, as is usually the case, some special sanitary measures are adopted, the disease soon begins to decline, and in a few weeks disappears. Of course the sanitary measures adopted receive the credit of having "stamped out the disease," when, in truth, it had disappeared in strict accordance with its own law of decline. Perhaps you are ready to ask, then, if so little is known concerning the essential causes of disease, and medical literature is so full of errors and false conclusions—of what value is medical science to the community; or rather, why call it a science? I answer that all these theoretic dogmas and errors arising from partial observation of facts, bear the same relation to medical science that the plutonic, neptuvian, and glacial theories do to geology—or the speculations of a Darwin and a Huxley do to anthropology and natural history. While the advocates of these theories are amusing the world with their grotesque mixtures of facts and fancies, the great body of geologists and students of natural history are steadily adding fact to fact, enlarging the boundaries, and extending the usefulness of their

respective departments of science. So the great body of medical observers have been, and still are, steadily accumulating the facts and perfecting the art of medicine. And while the collateral sciences of physical geography, meteorology, organic chemistry, and microscopy have not yet enabled them to identify the essential causes of epidemics, they have, nevertheless, acquired a mass of facts relating to the circumstances and influences, that favor the development, propagation and malignancy of such diseases, of the highest value to mankind. The results obtained may be briefly expressed in the following propositions:

1st. That confined and impure air; water impregnated with organic matter; unwholesome and insufficient food; uncleanliness of person and premises; and depressing mental influences directly favor the development, propagation and severity of all epidemic and infectious diseases.

2d. That so far as these conditions can be prevented, or removed when they exist, in the same proportion will we limit the amount, and lessen the severity of the diseases to which we have alluded. It is on these propositions that all those modern sanitary measures, embraced under the heads of ventilation, cleanliness, sewerage, water supply, and wholesome food, which have so markedly diminished the ratio of sickness and mortality in many of the most populous communities in Christendom, are founded. Many generations may yet pass before medical men can identify and study the exact poison or agent, whether organic or inorganic, that constitutes the efficient cause of scarlet fever, or any other epidemic disease; and we may expect little benefit from specific medicines given for the purpose of neutralizing or destroying such supposed cause. But every carefully observed fact that enables us to see more clearly the conditions which favor the development, spread, and severity of any given disease, will be of value in suggesting, to the thoughtful and well-disciplined mind, practical measures for modifying or preventing those conditions.

Such, we regard as the present status of medical science in relation to the essential causes of epidemic diseases,and the attempts at prevention by specific medication.

ON THE BEST MEANS OF PROMOTING UNION BY FIRST INTENTION.

By E. W. LEE, M. D., Chicago.

Ninety-nine practitioners out of a hundred will proceed to dress an incised or lacerated wound by bringing the edges together, and maintaining them in position—or trying to—by means of strips of adhesive plaster or interrupted sutures of silk. For several years I have been in the habit of using needle sutures for all wounds, varying the size and shape according to the location and depth of the wound. For all wounds not very deep, I use Sharp's No. 12 cambric needle. It is very small, and is easily introduced and extracted.

If plaster be used, no matter how carefully it may be applied, in a few hours it stretches, permitting the edges of the wound to gape although the apposition was perfect when leaving the hands of the surgeon. If interrupted sutures of silk be used in the ordinary way, the edges of the wound are brought together, leaving underneath a cavity for the accumulation of discharges and subsequent suppuration; the silk causes more or less irritation immediately, it begins to cut, and unless taken out in 24 hours, leaves an ugly mark at the seat of the suture. In all wounds over one-third of an inch in length, I use these needle sutures. We all know what an unirritating substance steel is. Needles have entered the body and remained there for years, causing no inconvenience whatever, coming out in an entirely different location from where they had entered. Suppose we have a wound to dress, say one and a half inches long. I proceed in the following manner: Carefully cleanse the part of all foreign matter, *and wait for hemorrhage to cease.* Then if the location and depth of the wound be suitable, take a No. 12 cambric needle in a needle holder, insert it a proper distance from the edge of the wound, push it through at about half the depth of the wound, bring the point out about the same distance on the opposite side.

Take now a piece of stout ligature silk or thread, and surround the transfixed tissue and draw the edges of the wound together. Put in as many sutures as may be necessary to secure perfect apposition, and the dressing is complete. It is useless to put on plasters in addition; they stretch, they are unsightly and unclean. In dressing wounds by this method pressure can be made so as to bring the edges of the wound together *from top to bottom*; no space is left for secretions to accumulate; no chance is left for stretching, and for the edges of the wound to gape; the pressure being so equally distributed, the suture does not cut through as a silk one will. The only objection to allowing the sutures to remain for four or five days, is that after forty-eight hours they are difficult of extraction. This difficulty I have overcome by having the needles electroplated with silver. To extract the needle, I take the end in the needle holder, gently turn it round in the wound once or twice, and then withdraw it. I do not cut the silk, it remains adherent, the blood and serum forming an incrustation, holding the silk in position; this I am careful not to disturb. I once dressed an incised wound 24 inches long, in the manner described. Between 40 and 50 needles (No. 12) were used; every portion of the wound healed by first intention. The advantages of this plan do not by any means end here. Suppose the radial, temporal, or palmar arteries be wounded; many practitioners not expert will spend considerable valuable time in seeking and ligating any of these vessels, and consequently more loss of blood than need be is occasioned. Here the needle suture is not only the best means of bringing the edges of the wound together, but it is the quickest, easiest, and safest means of stopping the hemorrhage by acupressure. I have repeatedly adopted this plan in all the above-mentioned accidents, and always with the utmost satisfaction. Suppose union by first intention does not take place; then cut the silk, withdraw the needles and the amount of retraction that takes place will not be nearly so great as it would had they not been used. I usually succeed in getting union by first intention, and when I have failed it has been either from a faulty condition of the system, or from being too hasty in the application of the dressing. In incised wounds about

the neck and face, where primary union is so desirable, this plan is peculiarly suitable. In scalp wounds, prudent practitioners hesitate to use silk sutures, so apt are they to set up erysipelatous inflammation; to make plaster adhere it is absolutely necessary to shave the scalp for a considerable space around the wound. Use needle sutures, and it is not necessary to remove any hair at all, and they may remain in the scalp as long as may be necessary with impunity. This may seem a very small matter to say so much about; but with most of us, dressing wounds is an every-day occurrence, and any improvement that may be introduced, however small, is of practical importance. I have tried this plan so long and thoroughly, and with so much gratification to myself and patients, that I feel it a duty to urge its substitution for silk and plaster entirely. It is not, of course, original with me, yet it is not adopted to any extent by the profession. I am confident that if the dressing be carefully done by those adopting this method, the attending success will be so uniform as to prohibit the employment of any other.

A FŒTUS ARRESTED IN ITS DEVELOPMENT AT THE FOURTH MONTH, AND CARRIED TO THE FULL PERIOD OF GESTATION; OR, TWO HUNDRED AND SEVENTY-SIX DAYS.

By E. DAY, M. D., Grand Tower, Ill.

The history of the following case is presented to the medical profession, not because it is supposed to possess much practical importance, but as showing what does sometimes happen under certain conditions and circumstances.

On the 8th of August last, I was consulted, at my office, by Mrs. I. M., aged 26 years, married, and residing about three

miles from Grand Tower, in regard to her condition; she believing herself to be in the eighth month of pregnancy. Her appearance, and the history of her case, gave strong assurance of the fact.

She made the following statement: Her catamenia ceased on the 5th of December, 1875, (with one exception hereafter mentioned) after which a gradual enlargement of her abdomen took place, as in her previous pregnancy, and continued for five or six months; but, of late, this development has not kept pace with her advancing gestation.

Her health had been, and still continued good. Her mind, however, has been much disquieted, from the fact that she has never felt any movement, indicating fœtal life, as she experienced during her first pregnancy; and, also, from the fact that a recurrence of the catamenia took place about nine days since, and lasted three days.

She appeared to be in an advanced stage of gestation.

Under these circumstances, I did not find it necessary to ascertain by the aid of the stethoscope whether the *bruit placentaire* existed; or to remove any lingering doubts in regard to the correctness of my diagnosis.

I dismissed the case, as one not requiring any medical interference, and advised her to banish all anxiety from her mind, as there appeared nothing in her case of an alarming character; and assuring her that a few weeks would perhaps demonstrate that, "whatever is, is right."

On the morning of September 6th, 1876, I was summoned to attend her at her confinement.

I was informed, on my arrival, that she had been in labor several hours; and, on examination, found the os uteri well dilated with the amniotic bag protruding. A few pains sufficed to complete the work of expelling, unruptured, the membranous sac, with its contents, and also the placenta.

In the membranes there were enclosed *the remains of a fœtus, of about four months development*, but really nine months of age.

The sac contained also about four ounces of thickened amniotic fluid, free from any offensive odor. The fœtus measured eight inches in length, when straightened; and

weighed a little more than nine ounces. The tissues of the fœtus had been absorbed to such an extent, as to leave only the integument and hardened muscles attached to the skeleton; the placenta also had undergone a similar process of absorption.

As the uterus had been tolerant of a fœtus, arrested in its development and slowly undergoing absorption, for four or five months, may it not be rational to infer that the mental condition of this patient—believing that she had reached the full period of her pregnancy—had the effect of inducing labor pains and the expulsion of the contents of the uterus; which otherwise might have been retained to an indefinite period?

As I did not subject my patient to an examination, in the first instance, and without giving much importance to the wanting link in the chain of symptoms, of normal gestation, I concluded, from the absence of the catamenia, for seven or eight months, the enlargement of the mammary glands, and the general embonpoint of my patient, that she was proceeding to the full period of a natural pregnancy; and consequently was not a little surprised at the singular denouement of the case.

SULPHURIC ACID *vs.* EPISTAXIS AND STINKING FEET.

By JNO. J. TAYLOR, M. D., Streator, Ill,

It gives me pleasure to be able to call the attention of the profession to the use of sulphuric acid in the treatment of "nose bleed" and stinking feet.

The acid acts kindly and promptly in all cases not connected with a malignant taint, or where due to polypus, and especially in individuals at or near the age of puberty.

Even in polypus, after its removal, the acid is beneficial.

Its action is accounted for in several ways, first, perhaps, because the blood is rapidly thickened,—made more plastic or subalkaline. It also acts as an astringent and tonic, giving tone to the weakened vessels and to the general system.

Its use requires some care in cases where hemorrhage is very free and frequent, as a sudden arrest sometimes produces unpleasant head symptoms. My plan is to prescribe the acid *two to four times a day in sufficient quantity to make half a glass of sweetened water, quite tart* to the *patient's taste.*

At first, the patient will crave the drink much more tart than after a few days. After giving it three or four days, whether unpleasant head symptoms come on or not, it is best to discontinue its use a couple of days. It seldom becomes necessary to repeat its use after a couple of weeks.

There is one other use to which sulphuric acid is of special benefit. I mean stinking, sweating feet.

Given two or three times a day, as in nose bleeding, the patient will quickly be relieved of this unpleasant affection. In this class of cases, however, I frequently find it necessary to give some mild ferruginous preparation, such as the Ferri et Potassæ Tartras, in sherry wine—5 to 7 grs. a dose. The latter should be given just after dinner, and the acid in the morning and evening, and on an empty stomach.

TREATMENT OF AN EPITHELIAL CANCER OF THE TONGUE WITH INJECTIONS OF NITRATE OF SILVER.—RECOVERY.

By DR. W. H. VITTUM, M. D., of Baraboo, Wis.

The treatment of malignant tumors has always been a *bete noire* to the profession, and any advance in the direction of a successful struggle with them will be hailed with joy. The object of the present paper is to give an account of a case of

epithelioma of the tongue, successfully treated by parenchymatous injections of nitrate of silver.

On the 26th of Dec. 1876, Mr. M. N., aet 59, applied to the writer and his partner, Dr. M. M. Davis, for treatment of a "bunch in his tongue." Upon examination, a tumor of the size of an English walnut was discovered, about one inch back of the tip of the tongue, and situated on the right side. The entire thickness of the tongue was involved. The surface of the tumor was covered with roughened and warty excrescences, and all the tissues in the immediate neighborhood of the growth were in an infiltrated condition. The tumor had increased in bulk very rapidly, having attained its present size in about two months. There was a great deal of lancinating pain, accompanied by extreme tenderness and a swollen condition of the whole organ.

The tenderness was so great that eating solids was impossible. The neighboring lymphatic glands were intact. The diagnosis of epithelial cancer of the tongue was made.

Having seen an account of the successful treatment of epithelioma with injections of nitrate of silver by Dr. Wilde, in the Chicago Medical Journal and Examiner, for March, 1876, we determined to try their efficacy in this case.

The tumor was accordingly injected in several places with a solution of nitrate of silver, (one grain to the ounce). The intention was, as Wilde suggested, to inject enough to saturate the tumor. This saturation was repeated daily for seven days, and then every alternate day until ten sittings had been held, when the tumor was pronounced cured. There was a very marked amelioration of symptoms as early as the day after the second injection.

Such prompt and complete success with a tumor which was so rapidly growing, and whose malignant nature was so evident, should fill us with the hope that at least one species of cancer (when it occurs in accessible situations) may be stricken from the long list of incurable diseases.

Translations.

GYNÆCOLOGY IN JAPAN.

By A. WERNICH, of Jeddo.

[Translated by Dr. James I. Tucker, Chicago.]

It seems to me that in view of the prejudices and the false impressions which have been conveyed by those writers who claim to portray the peculiarities of the Japanese people, especially the women of Japan, I am justified in communicating my own impressions to the circle of cultured readers who are especially interested in gynæcology.

Since my arrival, in Nov. 1874, a little gynæcological department has been fitted up here, consisting of ten or twelve beds. This is the first thing of the kind in Japan, and it is my great ambition to keep it constantly filled. But a small number of the patients who come to the Dispensary (*Poliklinik*) are able to conquer their aversion to submitting themselves to an examination by many different persons for the purpose of instruction. Consequently, the material, even including the cases derived from private practice, is at best nothing to boast of. All information must be obtained by means of an interpreter, and by this round-about method, not only much time is lost, but it is rendered very difficult to get at the complicated physical and mental conditions of the patient.

I send you a brief description of the physique, habits and constitution of the women, as an introduction to a communication concerning menstruation and female diseases.

The Japanese women are not beautiful, though much may be said to their praise.

No one would be willing, however, to say seriously that he had ever seen in the whole country a really perfect, symmetrically built, nobly-formed woman. I abstain here from a description of all mere outside appearances, such as the thick hair, resembling a horse's mane, whose braids (not curls) are held in place by the free use of fats, generally oil somewhat

rancid; the impure complection, which they conceal by means of powder applied to the neck, chin and cheeks, but which, nevertheless, presents a dirty, grayish-yellow appearance upon the forehead and at the borders of the hair; the scar of moxæ also, and other popular remedies, on the back and breast. I refer especially to the structure of their bodies. If your ideal of female beauty be Juno, Venus or Hebe—it is wholly unknown in Japan. One is bony, and has a neck like an ox; another has hanging breasts and frightfully broad hips; a third is lean and lank, with withered arms, sunken abdomen, and prominent pelvic bones; but all three would banish all delusion by the characteristic Japanese crooked legs. The admirers of the women of this country praise the round, graceful form of the neck and shoulders; and it is not to be denied that the not ungraceful lines of these parts, which proceed from the moderate deposit of adipose tissue, together with the velvet-like softness of the skin, and somewhat pleasing color make a happy combination. With the neck and arms, the *danseuse* makes her graceful movements, while her legs under the long garments, are seldom visible.

The gait is as ungraceful as possible. They shove one foot along after the other, in their stilt-like, horribly slippery and noisy wooden shoes, which the woman of the better class wears on the street, as well as the peasant girls, with crooked knees and prominent belly, the rest of the body being bent backwards; only the aspect of the upper part of the body sometimes carried with graceful ease, gives some relief to the offended eye and ear. This is equally true of the unmarried and married women of fashion. I need not mention that those women who adhere to the custom of shaving the eyebrows and blackening the teeth do not present a particularly charming appearance.

The pelvis is broad and very capacious. A pelvic deformity, in which the pelvis is generally narrowed, I have seen but once, as a congenital defect. The symphysis forms a very large obtuse angle. I do not recollect among my cases to have seen a narrowing of the introitus vaginæ. The growth of hair upon the mons veneris is in direct contrast to that upon the head,

and the thickness of the individual hairs is difficient; remarkably seldom it forms a triangle, having an oval contour corresponding to the vulva. The labia are lean, and even in young persons, very flabby.

The vagina is short; I never found one over 7 cm. long. I have never seen a hymen. As a general thing the perinæum seemed to be not particularly broad—congestion and tumefaction of the portio vaginalis was a matter of as frequent remark in my examinations, as in European women; it did not escape even the observation of Japanese physicians and interpreters.

According to unscrupulous travelers who have written about the habits and customs of the people, and who have derived their information from brothel experience at Nagasaki or in hospitable taverns of Kanagawa, the Japanese women are regardless of propriety, and destitute of shame. I am glad to say that in this respect I share the opinion of so distinguished a writer as Mitford, who has resided here many years; the author of "Tales of Old Japan" has done full and deserved justice to the Japanese ladies of patrician and plebian ranks, who are not prostitutes. Even the waiting-girls of respectable tea-houses are unapproachable to strangers, and old experienced suitors do not forget their unsuccessful efforts to seduce this or that tantalizing dancing-girl. The stories about guardians and relatives abandoning women to indiscriminate prostitution rest upon misunderstanding or brag. The numerous contracts made between Japanese maidens and their European neighbors are the best evidences of it. It is the legalization of a custom, which, according to our ideas, involves an immoral relation, that has given to these women the unenviable reputation of being frivolous and loose. Every marriage may be dissolved; it is a contract holding in force a few years only. He who has kept his wife for this length of time, or longer, seldom abandons her. If she is rendered useless by sickness or debility, so as to be unfit for sexual intercourse, she provides for her husband one or more concubines, and it is understood as a matter of course that the man shall possess every means necessary to satisfy his animal passions. All these women as-

sist one another in the duties of the household—an admirable provision in view of the natural indolence of the Japanese women. The first always officiates as house-keeper, and can then expect only acquiesence on the part of another, who has borne a son, because she herself has not been able likewise to provide for the family. The unmarried, but not abandoned Japanese woman of ordinary standing, always demands from the foreigner who troubles himself about her, a sort of marriage contract, for a month. However different this month-marriage may seem from a real marriage, we should not underestimate its significance. If any one is inclined to take a different view of the matter, he should bear in mind that this marriage relation is legitimate, and that the woman is, for the time being, really the wife of the stranger. To the fullest extent she takes possession of his house, bag and baggage, arranges her allotted apartments in all their details, and does not fail with the universal skillfulness of woman, to adapt herself to her new circumstances, and to make her function very important. She stands in an arbitrary relation to her domestics; she is obliged to pay a small tribute (generally 15 Rio=60 German marks) from her income to every one in the house, and therefore each one likes her and renders her assistance in all things. Then these persons endeavor to make themselves indispensable; they attend to every little affair, they satisfy every whim of the lord of the household, they provide for his comfort; in short, they are loyal in the highest degree in order that their term of service may extend beyond the limits of the appointed month.

In this way, attachments are formed, which, springing from a change of views, and cooling down of passion, become at last enduring. I am acquainted with many Europeans who have lived with their Japanese companions six and eight years, and who have given up all idea of dissolving the marriage relation and of returning home. And yet I have been speaking thus far only of maidens of low degree. A family which prides itself upon its respectability, sometimes, it is true, will give its daughters to a foreigner, but only under the express condition that she is given him for a definite period of time, while

he is in the country, and that she is not to be taken out of the country.

In one thing observers agree, viz., that these so-called "fast" women, in most cases, are thoroughly constant. In point of attachment experiences differ. This much is, however, certain, that in respect to food and clothing they come far short of the requirements of the European. They enjoy only Japanese food, which they prepare for themselves; even in respect to drinks, cake, dainties and the like, there is no commonality of taste; neither are they capable of being educated to our mode of living. Watches and rings are the only trinkets which they possess and highly prize. From all other foreign notions they stubbornly abstain. Yet after years of living together, the Japanese women do learn from the European to make use of a pillow, made of the makura. These are made so the back of the head hangs free, in order that the hair may not become disheveled during sleep. But in clothing they will brook no change. The cloth bound about the hips in the form of a little under-garment, three or four folds over one another, like a German dressing-gown, which is fastened by as many smaller girdles, and even the foot wide upper garment, (obi) with which we are already familiar, through illustration, are clung to with pertinacity, in spite of the greatest love for the foreigner. In customs the women are more conservative than the men.

That, which, despite all this incongruity, gives them the power, in many cases, to fascinate the men, has doubtless given them in part their bad reputation. As many observers assure us, they will not submit themselves to the man whom they have once loved and left. How much this is due to natural instinct, or to a feeling of shame, I am not prepared to decide. At all events, I hold to the opinion, after many opportunities to observe, that the last reason is not the predominating one.

And now I come to my own experience which I have gathered from a large number of gynæcological examinations. The Japanese certainly do not regard the naked body as something unclean, and no one will now anxiously veil his legs

and his breast. The greatest care however is taken to prevent the exposure of the genitals, which are guarded with the fullest consciousness of shame. Every male patient, if he has wholly disrobed himself for the purpose of examination, still holds the little T-bandage-like cloths (Fundusi) about his hips; every woman hesitates in the most natural way to lift the little wrapper or girdle, and yields only when she is shown the medical necessity. I have seen women weep bitterly for shame when treated by the assistant physicians with undue regard to their feelings, and frequently I have been requested not to push my examinations of a woman in confinement, or with an abdominal tumor.

With reluctance the mother of a half-clad child uncovered it for the purpose of examining its chest for pulmonary disease, and I could not get one-fifth of the female patients who were to be placed upon the table in the gynæcological clinic to come into the hall where the students were present, without being first wholly concealed.

They have apparently great confidence in the physician; delicacy and prudence, particularly in hysterical persons, develop the same foolishness and deception that we observe in half-educated European women under the same circumstances. The women exhibit a degree of fortitude under the discomfiture and pain produced by minor operations and frequent examinations, and know very well how to restrain themselves. As a rule it is difficult for them to master a certain degree of sexual erethism, which happens to them more frequently than to our women undergoing like examinations; and on account of the erection of the clitoris, of the portio vaginalis, they readily secrete the glairy cervical mucus, and give expression to the well-known signs of sexual excitement, hurried respiration and disturbed utterance.

Yet this excitement, with most of them, became less and less upon repeated examination. The number who attend our gynæcological clinic and the dispensary has steadily increased during the course of the last winter, so that the department will be enlarged in the new hospital building, which will soon be ready.

With characteristic Japanese politeness, the patients always accepted willingly the chosen local appliances for treatment, (injections, tampons, suppositories, pessaries, hip baths, etc.,) and said that they had followed the directions with great precision. I am obliged to doubt this exactness in many cases, in accordance with those who have had much experience with the Japanese character, yet I believe I should restrict my doubts to the minority.

The weak and tardy reaction which forms the dominant feature in the physical life of the Japanese, and impresses upon almost all their sicknesses a relapsing and somewhat protracted course, has often taxed our patience in gynæcological cases. Yet we cannot affirm that the women, on account of their particular anomalies of constitution in this respect, are worse than the men.

Confined to the narrow limits of the house, and the family knowing nothing of providing food, scarcely thinking of their own advancement and an independent mode of life, not yet susceptible to the allurements of passion, the Japanese maiden awaits with the utmost resignation the period of the first menstruation, and lives in the manner several years more, in order, as soon as an opportunity offers, to unite her destinies with a suitable man; it may be for a limited time, it may be for life. Hinderances to marriage in the modern romantic sense, do not exist; but as long as she still lives in the house of the man who feeds and clothes her, she must be true to him. For several years the husband, who may discover inconstancy in his wife, has had the right to put her to death without ceremony. Among the eight reasons on account of which a marriage may be laid aside, besides the expiration of the term, and after years of living together, figure especially physical defect, (for instance, lepra, stinking breath,) loathsome skin-disease (herpes and the like).

As mothers, the Japanese are unweariedly devoted to their children, from an instinctive affection. As an instance in common domestic life, may be mentioned the continual carrying about of the child upon the back in the dress of the mother, so that among twenty who are attending to the duties of the

house, certainly we see fifteen in their common gown, skipping about with their child, for all the world as if a parasite were upon the mother. If there are older children, one carries the other upon the back (Umbo), so that considering the youth of the bearer, we are often in doubt which head belongs to it and which to the little brother or sister. Hysteria exists even in an aggravated degree, but we are led to believe no less frequently in the feminine than in masculine sex. Spasms are rare as well as contractions and convulsions of single muscles and limbs, also the laughing and weeping paroxysms which in my experience have seldom occurred. This hysteria is quite exceptionably referable to real trouble in the sexual organs. The great majority of hysterical Japanese are among the married women, who have passed through one or more confinements. Older persons, too, at the cessation of menstruation, become hysterical.

The Japanese women are in general very fruitful. The houses would probably be more noisy with children, were it not for long nursing and abortion. The foreigner, who makes a Japanese woman his concubine, declares in very many cases that he does not wish to have children. It is left with her, however, whether she will fulfill his wishes or not. The mixed breed, which came under my observation, made a very pleasing impression. I remember particularly several little Franco-Japanese that looked like pretty little French children. These children for the most part remain in the country, and alas! become accustomed to European clothing and education.

They are treated with indulgence and respect, though they are scrutinized by every genuine native of Japan. And certainly they find their way back with difficulty to re-adoption of the uncommonly unassuming manners of the natives. After the departure of the father, the mother returns into the circle of her family, but after that she is seldom taken to wife by a Japanese.

After these general observations, I come to speak next of

MENSTRUATION.

The menses begin in the 14th or 15th year and do not cease until about the end of the 40th year. In reference to this

fact, there is a play upon numbers of Chinese origin, as follows: In woman the power of reproduction begins at 7+7 and ends at 7x7; in man it begins at 8+8 and ceases at 8x8. Fewer persons menstruate very early than very late, and the beginning of the period before the 12th year of age, belongs to the remarkable occurrences. Girls, whose menstruation is tardy, (occurring in the 18th year), are not generally sick—still more rarely anæmic in the sense in which we employ the word—but they are simply backward in evolution, remain artless like children. "They do not trouble themselves about hairpins and the artistic toupee," said my interpreter. They do not powder their necks nor put on the girdle of the young woman, but dress and expose themselves like children, play with the boys upon the street, etc. Their physical and mental development is somewhat anomalous. They remain angular, while on the other hand the young Japanese woman who has undergone the menstrual evolution, generally becomes athletic, her breasts and hips become extraordinarily broad. Regarding the amount of menstrual flow, it would, perhaps, be impossible to arrive at a correct estimate, as we do at home, after observation extending over a number of years. There is a very peculiar arrangement, which the woman makes use of during menstruation, and which controls to some extent the amount of the flow. She puts on the usual well-constructed T-bandage, which is called *kama.* But this is not sufficient to absorb the fluid. Something more is necessary. The people of the Orient are so rigidly observant of the rules of cleanliness that they never use a second time the clothing and pieces of cloth which have once been soiled with the fluids of the body—blood, pus, and discharges from the nasal and bronchial mucous membrane. This fact is well-known from the description which writers give of the Japanese and Chinese handkerchiefs made of paper. In the higher ranks of society, the menstrual excretion is considered unclean, and consequently paper is used for its absorption and removal. From the abundant store of paper-leaves which are used for various purposes, the women squeeze pledgets into the shape of balls of the size of almonds or walnuts, and stuff these into the

vagina according to its necessities. A woman, who, during this period, visits for example the theatre, resorts to this procedure several times in the privy. She knows quite exactly when these tampons which she has introduced have soaked up the blood and then squeezes up a new one. In severe cases of *fluor albus*, I have sometimes found these paper-balls in the vagina. The number of these tampons which is introduced corresponds to the duration and abundance of the product of menstruation. It varies from six to twelve.* A short menstruation is regarded as a sign of good health; much less stress is laid upon consistence, color and foreign admixture.

In healthy women menstruation lasts three to four days; in hospitals, in different pathological conditions, naturally longer. A popular song, not altogether decent, in which the maiden consoles her lover, to the effect that he must content himself during this period without normal sexual enjoyment, fixes the time at seven days. This reckoning has been carefully observed, as it is valuable in diagnosis to notice any shortening of the stage of menstruation, as well as the length of the interval. Physiological menstruation is attended by light, labor-like pains in the abdomen, and some sense of pressure in the temples. Pain and sensation of cold in the loins, drawing-sensations in the thighs, pains in the back of the head, and in the forehead, are well-known pathological signs.

As an emmenagogue (not purgative), an infusion of the root of *rubia cordiflora*, is used, which the women call *shenkong akane*. Yet of late years preparations of iron and cinchona, pediluvia and sinapisms, have gained popular favor. Sometimes mustard and capsicum are used internally. Cessation of the menses is considered by the Japanese women the most reliable point from which to reckon pregnancy. When the year was officially divided, as formerly, into lunar months, it was still easier, as all she had to do was to reckon ten such periods of time before confinement. Singular enough she is perplexed if the last menstruation continues from the last day of a (calendar) month to the first of the next (*zéki matangi*), as the technical expression is. The reckoning is in-

* In some of the provinces paper wadding is used.

exact, for she counts in the month that has begun as a whole month. She makes a miscount in this manner.

The women and the physicians are tolerably well acquainted with other things which may cause a temporary amenorrhœa. That acute diseases, attended by fever as well as radical abortions, may be followed by this as a consequence, is universally accepted. The relation of menstruation to lactation has been the subject of careful medical observation. I was told that "if a woman has never been pregnant before, lactation may last five years; it extends into the fourth year as a regular thing, even when the child does not depend exclusively upon the mother's breast for nourishment. Yet the milk is not abundant longer than three years. Menstruation regularly reappears during this long period of lactation; yet it is regarded as unusual for it to reappear prior to three months after confinement. Return of the menses is not thought to exert an influence upon the quantity and quality of the milk. If menstruation occurs but once, and does not re-occur, and if lactation ceases gradually 2 to 3 months later, we can decide without the possibility of being deceived, that there is a new conception. After this time (2 to 3 months) the milk invariably dries up."

Alterations which are produced by the menopause, are as follows: improvement of the health in weakly women; development of catarrh of the stomach and bowels; obesity.

During her "period," a woman is always forbidden to bathe. Coitus and hard work are also forbidden. She fears taking cold very much, and calls it characteristically *shimokase* (wind from below.) In some provinces of the interior, especially in Hida, the women are very earnestly advised, during this time, to relinquish visiting the temple, and prayer to the gods, and to good spirits; in other provinces they are obliged to spend the time in their apartment, and not allowed to eat with their families. As soon as a woman finds that the flow has ceased, she takes a bath, puts on other clothing, and lays aside the T-bandage. The maiden early becomes acquainted with these rules by listening to the conversation of other women, young and old. Formerly the pernicious custom prevailed among

old female servants and aunts, of giving secretly to the daughters of distinguished families, in whose presence nothing had ever been said about *hatzubana* (first blood), books which contained an accurate description of menstruation, and at the same time obscene allusions. At the present time traffic in this kind of literary product is forbidden.

It was very interesting to me to find, upon translating many of the expressions for "menstruation," none which conveyed the idea that menstruation is an act of purification. The Japanese consequently regard this blood as in the highest degree unclean—perhaps the most unclean of the excretions—but not, that they are thereby cleansed. The commonest term is *gek-ke*, which signifies simply the monthly rule. *Mengori* or *megori*, the next most in use, and also a somewhat finer term, is, literally translated, a thing which moves in a circle, or one which regularly returns. *Akane son-ke*—a somewhat ordinary expression used in popular songs, and by wits, means "red-color; "geschim" means monthly messenger, or announcement, and "jakh" means simply, duty. The two last have fallen already somewhat in disuse.

[TO BE CONTINNED.]

Clinical Reports.

COOK COUNTY HOSPITAL.

(SERVICE OF THOMAS BEVAN, M. D.)

Cases Reported by J. H. WM. MEYER, House Physician.

Scarlatina and Suppurative Pleurisy.

Bridget O'C., aged 15, was admitted to the hospital, February 28th, 1877. A week before admission, patient took cold, followed by slight cough. Two days later, she experienced a feeling of general lassitude and weakness, nausea, vomiting and headache. Complained of a dull pain in her right side, and cough.

Four days ago, she became very feverish, pain and cough growing worse, but did not expectorate; the opposite side, also, became painful. At this time, a bright red, punctate eruption made its appearance on her chest.

On admission, patient fairly nourished; tongue coated whitish; bowels move daily; skin very hot, presenting a scarlet rash over the chest, abdomen and thighs; does not eat nor sleep well. Complains of pain in her side and loins. Has been menstruating for four days.

On examination, find diminished movement and dullness over the right chest, posteriorly as high as the spine of the scapula; feeble vesicular respiratory murmur; decreased vocal resonance and fremitus over the same region. Has incontinence of urine during the paroxysms of coughing. Quiniæ sulph., gr. iii. four times daily; spiritus frumenti, tablespoonful every four hours. Also, turpentine stupes to the chest.

March 3d. Bronchial breathing and dullness over the right lung posteriorly to the seventh rib; feeble vesicular murmur below this; broncho-vesicular breathing anteriorly above the fourth rib. Skin desquamating on right side; A. M., temperature, 103; pulse, 134; respiration, 44. P. M., pulse, 144; temperature, 105; respiratory, 40.

March 4th. Did not sleep well; physical signs unchanged. Expectorates a little white, frothy mucus. A. M., pulse, 124; temperature, 102½; respiration, 34. P. M., pulse, 150; temperature, 105; respiration, 42.

March 5th. Bronchial breathing heard posteriorly over right lung, from apex to lower angle of scapula; anteriorly broncho-vesicular breathing, with some large and small mucus rales. Breathing very difficult. A. M., pulse, 150; temperature, 102½; respiration, 52. P. M., pulse, 140; temperature, 102½; respiration, 40.

March 6th. Was delirious all night. A. M., pulse, 138; temperature, 98½; respiration, 36. P. M., pulse, 138; temperature, 102½; respiration, 40.

March 7th. Expectorates large quantities of tenacious yellow sputum. A. M., pulse, 140; temperature, 98; respiration, 44. P. M., pulse, 136; temperature, 100; respiration, 40.

March 8th. Find moist rales all over left lung. Urine still escapes during the paroxysms of coughing. A. M., pulse, 130; temperature, 103¾; respiration, 39. P. M., pulse, 150; temperature, 102½; respiration, 44.

March 9th. Expectorates excessively. Examination of sputum with microscope show it to be composed almost entirely of pus. Find amphoric resonance, breathing and voice over left scapular and interscapular region, A. M., pulse, 136; temperature, 99; respiration, 34. P. M., pulse, 134; temperature, 103½; respiration, 34. Some of the sputum was boiled with liq. potassæ; but no elastic tissue could be found.

March 11th. Died.

An examination was made ten hours after death. The right lung was much shortened, leaving a space bounded above by the lower lobe, below by the pleura, covering the diaphragm externally by a false membrane, which was firmly adhesive to the parietal layer of the pleura, within which space was contained at least a quart of purulent fluid. This fluid extended up as far as the pleural reflection at the root of the lung.

In the lower lobe of the right lung was a small cavity, which communicated externally with the pleural cavity, internally with a bronchiole. Both cavity and bronchiole contained purulent fluid. Over the lower lobe of the left lung, some adhesions to the diaphragm were found, with some fluid in the pleural sac. Parenchyma of right lung was compressed, and gave diminished crepitation, yet floated upon water. On section, found increased amount of mucus, with a little pus. The condition of the left lung was similar, except that there was less compression and no pus.

Phthisis and Empyema.

Claus Cl., native of Denmark, cabinet-maker, aged 33 years, was admitted, February 7th, 1877. There is no record of consumption in patient's family history. Has himself enjoyed good health until last May; at that time he took cold after drinking cold water on a very hot day. He contracted a

cough, from which he has never had entire relief; had pains in his chest. During the summer his health gradually failed, appetite being variable; bowels not regular; had scanty expectoration of white frothy mucus. During September he began to suffer from occasional night sweats, a tickling sensation in the throat, huskiness of voice, dyspnœa; sputum became yellowish in color. One night he awoke to find blood running from his mouth; thinks he lost half a pint at that time. Was in this hospital during last November, during which time his symptoms were much improved. On leaving, however, he took a fresh cold, and suffered a relapse to his former condition. On admission is somewhat emaciated; skin normal; face flushed; tongue large, coated white; appetite poor; bowels regular; urine of high color, and offensive odor; pulse, 120; respiration, 24; decubitus on left side; coughs constantly, expectorates a greenish yellow sputum; has dyspnœa and night sweats. On physical exploration, find loss of vocal fremitus over lower half of right chest.

On percussion, patient in recumbent position, find slight dullness just below right clavicle; then fair resonance as far as fifth rib, in front; dullness in axillary region, and posteriorly; patient lying on his breast, find resonance posteriorly; dullness in front almost to clavicle, fixed dullness anteriorly over left lung as far as fifth rib; fair resonance posteriorly. On auscultation, find low-pitched, blowing respiration, just below right clavicle; broncho-vesicular, below that; exaggerated high-pitched respiration on left side anteriorly. Behind find feeble respiratory murmur over lower half of right lung; exaggerated respiration with some broncho-vesicular breathing over left. Withdrew and examined a few drops of fluid from chest; find pus-corpuscles in abundance.

March 12th. Feet are slightly œdematous.

March 18th. Is expectorating purulent liquid at the rate of about an ounce per hour.

March 19th. Slept well; feels pain in right side; upon coughing notices a particularly offensive odor of the breath.

March 20th. Still expectorating purulent liquid profusely.

March 21st. Get well marked, amphoric breathing and voice, and succussion.

March 27th. Gradually failing. Still expectorates profusely.

March 29th, Died.

Post mortem ten hours after death. Found about a gallon of pus in right pleural sac. The pleural surfaces were very thickly covered by false membrane. The apex of right lung was firmly adherent to the chest; the other parts floated on the pus. The upper lobe of left lung was infiltrated by a deposit; the right apex contained several small cavities, one of which communicated with the pleural sac. All the other organs were normal.

Cancer of the Lung.

Charles L., native of Sweden, aged 30, a carpenter, was admitted February 10th, 1877.

In June, 1875, patient's left leg was amputated at the lower third, for cancer of the foot, in St. Joseph's Hospital.

Five weeks previous to admission he took cold; had a slight cough, but was not confined to his bed until three weeks later, when he complained of dizziness; pain in the left side of the chest; and cough; expectorating large quantities of white frothy sputum. A week ago he began to expectorate small quantities of blood.

On admission, poorly nourished; tongue coated whitish. The skin presents a peculiar sallow hue. Find a small tumor on the left leg, midway between the stump and knee; the mammae enlarged, hard, and indurated. The left side of the chest measures one half inch more than the right. Apex beat of the heart in the epigastric region. Examination of the chest reveals dullness on the left side as high as the inferior angle of the scapula; decreased vocal fremitus and respiratory murmur; also friction sound in the left inflammatory region.

February 20th. Dullness extends somewhat higher. Gradual enlargement of the tumor on the leg.

March 6. Expectorated about three ounces of bright red frothy blood this morning.

March 19. Has great dyspnœa; is compelled to sit up in bed; coughs constantly, expectorating white frothy sputum, occasionally streaked with blood. Tumor on the leg growing rapidly.

March 25. Amphoric respiration over the apex of the left lung.

March 28th. Died.

Autopsy twelve hours after death. Slight adhesions were found between pulmonary and costal pleuræ over the entire left lung. A few also on the right side.

The anterior border of the left lung extended about one and one-half inches to the right of the median line. The heart was displaced considerably to the right. As the root of the lung was severed, exit was given to a large quantity of brain-like matter, mixed with blood. The lung was almost twice as large as the normal organ. Disseminated through both lungs were masses of brain-like matter, varying from the size of a pea to that of an orange. These were especially numerous and large in the left lung. The mesenteric glands were enlarged, and mesenteric vessels congested. The rectum and greater part of descending color were considerably constricted in size. The tumor on the leg, involving the bone to some extent, was composed of this same brain-like matter.

Atheromatous Degeneration.

William A., American, carpenter, aged 64 years, was admitted to the hospital, March 7th, 1877.

As the patient was somewhat delirious, we could get no history, but learned from friends that four weeks previous to admission he was suddenly seized with dizziness; vertigo lasting about an hour; since then he has been lethargic, and at times delirious. On admission, well-nourished tongue moist and clean; appetite and sleep fair, bowels regular; surface normal; pulse feeble, 90 per minute. The radial artery is tortuous and moves under the finger as a hard cord.

March 18th. Hands and feet are very cold, head hot. Passes urine and fæces in bed; is still delirious.

March 22d. Patient gradually failed and died to-day.

An examination was made ten hours after death. In removing the calvarium, about three ounces of a yellowish white fluid escaped. The dura mater was greatly thickened and firmly adherent to the extent of about one inch on either side the median line of the calvarium. The pia mater was thickened and congested. The arteries at the base of the brain were in some portions sacculated, in others contracted, and contained numerous clots. Their walls were thickened, and at many points were found deposits of a hard whitish substance. The ventricles were enlarged and contained considerable fluid.

The arch of the aorta was greatly roughened by calcareous deposits, being most marked in the descending portion; in places small abscesses were found. The valves of the heart were normal. Coats of all the arteries examined in various parts of the body seemed to be thickened. The costal and pulmonary pleuræ of the right lung quite extensively adherent, and the lung in a state of senile pneumonia.

RUSH MEDICAL COLLEGE CLINIC.

SERVICE OF PROF. MOSES GUNN.

(Reported by EDMUND M. LANDIS. M. D.)

Hare Lip and Cleft Palate, with Operation for the Hare Lip.

Frederick W., German, aged 26, farmer, who is a robust young man, presents himself with a hare lip, and a completely fissured palate. The dental arches of the superior maxilla are even, and the teeth perfect and regular, up to the edges of the fissured bones, which approximate at the symphysis.

The hare lip has been operated upon, in Germany, unsuccessfully. Union after the operation, taking place only in the upper angle of the slit.

The ability of the patient to articulate, is illustrated by the following alphabetical score: a, b, —, —, e, f, g, —, i, j, —, l,

m, n, o, —, (says u for g), r, —, —, u, v, w, x, y, —. The dashes represent the sounds which he is unable to master. The German h–hah, can be made, but the h–haitch, as in English, cannot be accomplished.

This case presents a complete cleft, but is a favorable one for an operation. It is believed that it could be operated upon successfully, though it is not proposed to recommend it, as we have seen but in a single instance, any improvement in articulation as a result of the operation. The habits of speech, or the mode of pronunciation, which a patient who has attained the age of this young man has acquired, are difficult to overcome. The pliability of the velum as seen in health, which cannot be obtained by an operation, is the chief obstacle; it not acting like a freely pliant curtain, and going back over the posterior nares as it should.

If these cases could be operated upon in infancy, before the child had learned to talk, there would be more hope for the final acquisition of fair speech.

A remarkable case bearing upon this point, was that of a a young lady, who previous to the operation, tolerated the greatest freedom in the manipulation of the parts. The operation was a fine success. The parts became unusually pliable. The patient was a young lady of intelligence and ambition, exceedingly anxious to cultivate the voice, as she had a talent for music, and had already attained to a degree of proficiency, in voice and pronunciation, rarely met with in this class of patients.

The friends of the patient think that there has been improvement in the voice from the operation, but our observation of the case inclines us to think that there has been little or none.

Now, with a case so apparently favorable as was this, resulting in no improvement, the previous experience with this class of difficulties is borne out.

The patient has been advised not to attempt the operation for cleft palate, but to have the hare lip operated upon.

The patient was now anæsthetized, and an incision was made which commenced a few lines above the retreating angle of the

slit, and terminated by paring the edge of the lip on the left of the slit. A second incision was then made, commencing at the first one, near its origin, and terminating by cutting a flap in the lip on the right side of the slit.

After hemorrhage had ceased, the parts were nicely approximated, the flap in the right side of lip brought down, and used as a border for the lip, and the whole secured by several large and small waxed, silken sutures.

This restored symmetry to the lips, which, when the patient has grown a good moustache, will give a normal appearance to this part of his features.

Adhesive straps were applied to the wound, passing back as far as the ears, on either side, and holding in their grasp the folds of the cheeks, which are pressed towards the median line, thus removing extension from the wound.

The stitches will be removed in five or six days, the parts in the meantime to be kept as quiet as possible.

Typical Case of Cystic Degeneration of Inferior Maxilla.

Samuel M., English, aged 43 years, farmer. Fourteen years ago, the patient who is a well-nourished, robust man, received a blow on the side of the jaw, from a horses' head, after which a small "gum boil," as he expressed it, commenced growing.

It is painless.

On examination, find a globular, elastic tumor projecting upon the cheek and into the mouth, which is connected with the lower jaw. The neighboring glands are not affected.

An exploring needle has been used before bringing the patient to the clinic and, "cystic disease of the jaw" diagnosed. Whether it originated in a tooth cyst, or at the bottom of the alveolar process, cannot be said. It is proposed to remove the walls of the cyst proper, and all degenerated tissue connected with it, leaving the base of the jaw intact, thus avoiding a more radical operation and preserving the integrity of the jaw.

The patient being anæsthetized, the teeth involved in the diseased portion were extracted, and the knife and bone-gnaw-

ing forceps used, to remove all the degenerated mass. The base of the jaw was left intact, and its firm outline could be felt by the fingers, after the removal of the diseased structure.

The cyst proved to be binocular and communicating, having a ridge of bone between the two portions.

Boracic acid dressings were ordered.

PRIVATE SURGICAL PRACTICE.

Under the care of JOHN E. OWENS, M. D., Chicago.

Internal Hœmorrhoids; Operations by Clamp and Actual Cautery.

CASE 8. Mr. ——, about 50 years of age, came under my care in 1873. I had, at that time, never encountered a case where, in consequence of internal hæmorrhoids, the patient's life was in such danger. I am, at this time, unable to find my notes of the case, but the leading features I well remember. Having suffered for years, the usual symptoms, namely, protrusion, strangulation, inflammation, pain and hemorrhage, the patient had become exhausted to death's door. The prominent symptom was hemorrhage. Defecation became very inconvenient in the morning, in consequence of the loss of blood on such occasions, and its attending exhaustion. This matter was therefore postponed till evening, when injections accomplished what nature, unaided, might have done, at the proper time, in the morning. After a little experience, he soon found out that his strength was best conserved by going immediately to bed, and thus by the morning he had rallied sufficiently to ride down town, to his place of business. He did but little more, however, than sit in the office and give orders. In this way the patient dragged out a most miserable existence. The eyes and skin were of a greenish color, in consequence of which it was thought by many that the patient was laboring under some obscure disease of the liver, and for

this he was treated at mineral springs and elsewhere. Prof. J. Adams Allen, his family physician, finally convinced him that hepatic disease did not exist. Suffice it to say that when I called, by appointment to operate, the patient was in a very critical condition. He was prostrate on his bed, with œdematous legs, feet and face, oppressed breathing, and very small frequent pulse. Dr. Allen feared the existence of pulmonary œdema. Of course the operation was postponed. Under rest and medical treatment he soon improved, and the pulse and respiration being good, I operated with clamp and actual cautery, June 1, 1873. Only two or three hæmorrhoidal tumors were found. The patient recovered without an untoward symptom, and became a useful man. I ceased surgical care of the patient, June 18. He is, at this date, March 21, 1877, in the enjoyment of health.

Case 9. Mr. C., aged 49 years, a carpenter, suffered in consequence of internal piles for twenty years. They bled more or less during the ten years previous to the operation, and having commonly protruded at stool, voluntarily returned with one exception when they became strangulated, and were replaced by his family physician, Prof. DeLaskie Miller. The hemorrhage frequently continued twenty minutes. Whilst at work the blood often saturated his clothing, and ran down into his shoes. In May, 1874, I operated with clamp and actual cautery. The patient made a good recovery, and was in the enjoyment of health, March 16, 1877.

Case 10. A lady, aged 59 years, from Ottawa, in this State, had internal hæmorrhoids for twenty-four years. Two of the tumors were uncommonly large. A "perineal" pile was, as is usual, particularly troublesome. Menstruation ceased twelve years ago. I operated with clamp and actual cautery, August 25, 1875. Suppression of urine immediately followed, and continued without inconvenience for 36 hours. Fomentation and sweet spirits of nitre were ordered. The urine remained scanty and high colored for two days; its passage was attended with considerable pain.

August 28th. Moderate protrusion of swollen mucous

membrane; no pain in rectum. To this date a sufficient quantity of opium had been taken to ensure constipation.

August 30th. Confection of senna having failed to move the bowels, the following pill was ordered to be taken at bed-time: Podophyllin, ext. nucis vom.; ext. Belladonna, aa gr. ½; ext. colocynth. comp. grs. j.

September 14th. Patient has been going to the table for three or four days, and is now able to go out. She remains quite well to this date, April 14, 1877.

CASE 11. Rev. M., aged 41 years. This patient was referred to me for operation by his family physician, and gave the following history:

About twenty-one years ago the patient suffered from dyspepsia, induced, doubtless, by sedentary habits. He strained too much at stool, and almost daily during this period of twenty-one years, he was annoyed by a protrusion of internal piles. For twenty years, bleeding from the rectum was more or less frequent. Any intercurrent ill, like sore throat, "cold" in the head, etc., was sure to be accompanied by a rectal hemorrhage. Remaining long at stool caused a hemorrhage. By keeping the bowels in a lax condition, by rising promptly from stool, and putting the piles back, hemorrhage was, for the most part, prevented. Bleeding ceased when he assumed the recumbent position. He seldom lost four ounces of blood—two or three times a year—perhaps as much. This gentleman is very active and energetic, accomplishes an immense amount of work, has traveled around the world, and over our own country. He began to preach in 1858. The rule was, that after preaching he was obliged to hasten home, in order to replace the piles that had protruded whilst he was in the pulpit, and, grasped by the sphincter, caused an agony, which seemed, at times, unbearable. Often on his way home he was obliged to stop and support himself as best he could. They bled only at stool. When inflamed he was compelled to remain in bed for three or four days.

Oct. 9th, 1875. Assisted by Dr. C. M. Chamberlain, who is the gentleman's medical attendant, and Drs. Guerin and Simons, I operated with clamp and actual cautery. The sphincter was not over-distended.

Oct. 13th. Increase in the soreness and in the protrusion of the swollen mucous membrane—an unusual occurrence, since swellings and soreness do not increase after the third or fourth day, unless from some indiscretion on the part of the patient. The patient acknowledged, however, that the previous evening being unable to pass water, he got up and strained. Injection of warm castor oil at 10 o'clock, A. M., and in an hour afterwards an ounce of oil by the mouth. Patient is now as he always is, very nervous and fidgety. Cold applications were used locally. Opium was used to allay pain caused by a spasmodic contraction of the sphincter, and to keep the patient still.

Oct. 17th. Bowels acted several times in response to the oil, and operations were attended with some pain. Patient went down stairs just two weeks from the day of the operation.

Oct. 28th. Patient has been out daily since October 23d, and to-day made seven or eight calls.

March 15th, 1877. Patient is perfectly well at this date.

REMARKS.—In a certain proportion of cases, suppression of urine without inconvenience to the patient, occurs. Retention of urine usually yields to hot applications, the use of the catheter being seldom required. Opium, perhaps, plays a certain part in the causation of the former, and yet in case 10 it was given very sparingly indeed. Brisk purgation is both unnecessary and hurtful. One or two operations on the third or fourth day, induced by the mildest means, are quite sufficient. Injections of warm castor oil, once or twice daily, using the first one, thirty-six hours before it is intended the bowels shall move, will in a proportion of cases be all sufficient. In all cases, whether an additional laxative is required or not, the oil injections add comfort to defecation. I have only on one occasion operated with the clamp and actual cautery, without the employment of an anæsthetic. The most painful part of the operation is the closing of the clamp on the pedicle. The application of the cautery was not complained of in the case referred to. The sphincter should always be over-distended, as the first step in the operation. This precaution having been observed as a rule, there will be but little complaint of

subsequent pain. Three indications present themselves, namely, to lock up the bowels as long as may be necessary, to ensure quietude of the patient, to annul pain. To meet these, I give the preference to powdered opium. Cold water bathing for several weeks after the patient is able to get up should be recommended, and unless instructed, patients commonly do this in the most inefficient manner. If the patient will place a basin of cold water on the *floor* (not on a stool) and stoop down over it, bringing the anus as close to the water as may be, it will be found that the anus opens and the very lowest part of the rectum comes to a certain extent into view. The bathing is then best accomplished with the hand.

Formerly I *pulled* the piles down as is recommended in the books, and thus secured them one by one in the clamp. This method is objectionable. When traction is made upon the tumor the pedicle is elongated at the expense of the normal mucous membrane. The latter is thus drawn into the clamp. As soon, however, as the traction is relieved by the removal of the clamp, the margins of the wound are not only drawn more or less widely apart by the resiliency of the rectal walls, but the wounded surface is likely to bleed. The sphincter having been over-distended, the hæmorrhoidal tumors which come at once into view, should be, one by one, secured in the clamp at the pedicle before any traction whatever has been exerted upon them.

Correspondence.

A VISIT TO THE MEDICAL ASSOCIATION OF THE STATE OF ALABAMA.

EDITOR CHICAGO MEDICAL JOURNAL AND EXAMINER:

Thinking the readers of the JOURNAL AND EXAMINER might chance to feel an interest in the condition of medical matters in the State of Alabama, as reflected through the constituted exponent of the profession—the Medical Association—I have taken a few pencil notes, which I offer for their acceptance.

This association was organized in the year 1840. With the exception of a few years when the chaos of social and business avocations incident to our late war, diverted the minds of men throughout the country from such pursuits, the annual meetings of the body have been held with regularity. As is usual with State societies, this of Alabama is migratory in its character, being carried in successive years from place to place amongst the larger towns of the State.

In its constituent membership it comprises a goodly number of names of men whose attainments and labors are matter of just pride, not only to Alabama, but to the South; names which do no discredit to the profession of the whole country. Were it not invidious to do so, I might mention a number of these names which would probably be familiar to the minds of your readers.

For several years past, the association has published an annual volume of transactions of creditable size, and of merit sufficient to draw forth the approval and warm commendation of leading medical journals all over the land. In this respect, at least, it may safely be said that no similar medical body in the South has surpassed it.

The association comprises in its membership all of the individual members of every county society in the State, who are privileged to attend the meetings and participate in its

scientific proceedings and discussions, but not in its ethical and business management. It is a representative body, and receives annually two delegates from each county society who compose the House of Delegates for the year, and who are entitled to vote upon matters of business which may be brought before the association. The House of Councilors consists of delegates usually, and sometimes other meritorious members, who may be elected by the house, to a number which shall not exceed one hundred in all; who are elected for life unless removed for cause, *e. g.*, non-payment of dues ($10 annually), absence from three consecutive sessions of the body, etc. The House of Councilors has especial charge of questions of ethics, and the general business policy of the association, and its members are alone eligible to hold office in the association. From the councilors is selected annually one member of the "Board of Censors," with a five year's tenure of office, and the five members constituting a medical court vested with absolute powers like those of the Judicial Council of the American Medical Association.

This association is constituted by law the State Board of Health, and a committee of the councilors, called the "Board of Health," is charged with this especial duty. The tenure of this office, like that of censor, is for five years, one new member being elected annually. At the present session the Board of Censors and the Board of Health have been consolidated into one body, charged in common with the duties of both, and bearing the name of censors. The machinery of the Health Board is not yet in full operation, but its foundations are being deeply and securely laid, and promise rich fruit in the near future.

At the last session of the State Legislature a law was enacted to regulate the practice of medicine and surgery in the State, and the State Medical Association was charged with its execution. Under this law, those who offer for practice of regular medicine in the future, are to be examined upon all of the branches, whilst irregulars are to be subjected to examination only in anatomy, physiology, chemistry, surgery, and obstetrics. These examinations are to be made of all ap-

plicants, whether graduates or not. Those candidates who have diplomas are examined by the Boards of their several counties, whilst all who are without diplomas must appear before the Board of Censors of the State Association, which is constituted the State Board of Medical Examiners. It is required that all who are now practicing in the State shall appear before their county Boards and take out certificates of registration without examination. These certifieates are to be recorded in the office of the Probate Court, and the record renewed when the residence is changed from one county to another.

At the present session of the association the attendance is smaller than usual, on account of a recent flood in the water courses obstructing travel. A number of valuable papers were read, but the scientific features of the proceedings were hardly so sumptuous as last year. A marked feature of this body is the regular attendance of members from different parts of the State, year after year, evidencing the interest in its welfare, which is felt, and a readiness to make some sacrifices in order to be present at its meetings. The average intellectual capacity of the members, and their professional attainments, strike a visitor as being highly creditable; this is probably due to the fact that the meetings are filled up by earnest men from all quarters of the State, rather than by local practitioners, who attend because of the close proximity of the meeting to their places of residence.

ROBERT BATTY, M. D.

ROME, GA., April, 1877.

THE LATE DR. FREER.

TO THE EDITOR OF THE JOURNAL AND EXAMINER:

Dear Sir:—Among all the high eulogies so deservedly bestowed upon the late Dr. Freer, the writer finds no mention of a certain phase of his character which is deserving the highest praise, viz., the honorable position he took in regard to medical women. He was not only gentlemanly toward them

but just, seeming to regard them in every respect as his peers.

It is hoped you will pardon the writer as she gives a personal experience in regard to this point, for outside of the faculty of the Woman's College she has found no such friend in the profession as Dr. Freer. The first time she ever saw him he extended to her the unprecedented courtesy of inviting her to a place beside him at the operating table during his surgical clinic. Just then, entering upon a new and untried field, she expressed to him the hesitancy and dread with which she undertook the work—the teaching of physiology, his own branch, and asked him for advice. He replied: "You do not need advice, you will be sure to succeed, and your first course of lectures will be your best. I think mine was, because I worked the hardest over it." He then offered her the use of any material at his disposal, and said he would be glad to give any assistance in his power. A year since, he transferred to her his appointment as a delegate from the State Medical Society to the American Medical Association—the result of which you well know—and the kind letter he wrote on that ocasion is preserved as a precious memorial. The last time the writer ever saw him was at the opening (or dedication) of Rush College. While conversing with him at the close of the exercises, she spoke of the future of the Woman's College, and remarked that the great disparagement between his college with its magnificent new building, and ours with no building at all, was enough to discourage one. He replied: "Not at all. You must never abandon that college; sooner or later it is bound to be a success. If you give it up, it is only to give it into the hands of others; a woman's college in Chicago is a fixed fact, and I am determined that Rush College shall befriend you in every way possible." Such a sentiment from such a man is most worthy of record. May the successor of this great man be as noble and as just.

SARAH HACKETT STEVENSON, M. D.

Prof. of Physiology Woman's Hosp. Med. College.

ST. CAROLINE'S COURT, April 18, 1877.

A VERY USEFUL NASAL IRRIGATOR.

EDITOR JOURNAL AND EXAMINER:

Experience seems to have demonstrated that the nasal douche—while with proper care very useful in its way—in the hands of most patients and many practitioners, is a dangerous instrument, on account of the tendency of its use to cause congestion and inflammation of the middle ear. It is desirable to have some means of thoroughly irrigating the nasal passages in cases of catarrh and ozena, without the danger referred to. Different forms of syringe have been used with more or less success.

The curved syringe for injecting fluid forward from the posterior nares, is in some hands very successful; but fluid thrown back through the anterior nares sometimes strikes against the mouths of the eustachian tubes, and proves as mischievous as when coming through the douche under considerable pressure.

The little instrument figured below—and which has been made for me by Messrs. Sharp & Smith—has been contrived for the purpose of a nasal irrigator, and is believed to be free from the slightest danger of injuring the ear, while it has the advantage of being much easier of use than any syringe, and much more effectual. It consists of nothing but a rubber bulb, a short rubber tube and a metallic tube perforated on one side near its extremity, as shown in the cut.

The mode of using it is easily understood from its construction. The metallic tube is passed two inches or more into the nasal fossa, exactly as in passing a eustachian catheter, the perforations directed upward, when the bulb, previously filled with the irrigating fluid is forcibly compressed, and the fluid is projected against the roof of the fossa, exactly where irrigation is needed. The manipulation is repeated until a sufficient

effect is accomplished. Patients are easily taught to use it. The metallic tube may be attached to an ordinary syringe bulb and a continuous stream of water ensured.

Of course there is no new principle employed in the construction of the instrument, and it may have been made and used in this form by others independently, but the combination here presented has worked so well and is so simple and cheap that it has seemed to merit the present brief notice.

Chicago, March 24th, 1877. NORMAN BRIDGE.

AMERICAN MEDICAL ASSOCIATION.

PHILADELPHIA, 1400 PINE St., S. W. Cor. Broad.

The Twenty-eighth Annual Session will be held in the city of Chicago, Ill., on Tuesday, June 5, 1877, in Farwell Hall, at 11, A. M.

"The delegates shall receive their appointment from permanently organized State Medical Societies, and such County and and District Medical Societies as are recognized by *representation in their respective State Societies*, and from the Medical Department of the Army and Navy of the United States."

"Each State, County, and District Medical Society entitled to representation, shall have the privilege of sending to the Association one delegate for every ten of its regular resident members, and one for every additional fraction of more than half that number: *Provided*, however, that the number of delegates for any particular State, territory, county, city, or town shall not exceed the ratio of one in ten of the resident physicians who may have signed the Code of Ethics of the Association."

Secretaries of Medical Societies as above designated are earnestly requested to forward, *at once*, lists of their delegates. Will you kindly send to the undersigned a list of your members with their residences, in order that a correct record may be made of all who are in affiliation with this body?

SECTIONS.

"The Chairmen of the several sections shall prepare and read in the general sessions of the Association, papers on the advances and discoveries of the past year in the branches of science included in their respective Sections. * * * *"—By-Laws, Art. II., Sec. 4.

Practice of Medicine, Materia Medica, and Physiology: Dr. P. G. Robinson, St. Louis, Mo., Chairman; Dr. B. A. Vaughan, Columbus, Miss., Secretary.

Committee appointed to report to this Section—on Clinical Observations: Dr. N. S. Davis, Ill., Chairman; Dr. H. A. Johnson, Ill.; Dr. J. B. Johnson, Mo.

Obstetrics and Diseases of Women and Children: Dr. James P. White, Buffalo, N. Y., Chairman; Dr. Robert Battey, Atlanta, Ga., Secretary.

Surgery and Anatomy: Dr. ———, Chairman; Dr. Moses Gunn, Chicago, Ill., Secretary.

Medical Jurisprudence, Chemistry, and Psychology: Dr. Eugene Grissom, Raleigh, N. C., Chairman; Dr. E. A. Hildreth, Wheeling, W. Va., Secretary.

State Medicine and Public Hygiene: Dr. Ezra M. Hunt, Metuchen, N. J., Chairman: Dr. D. R. Wallace, Waco, Texas, Secretary.

"Papers appropriate to the several Sections, in order to secure consideration and action, must be sent to the Secretary of the appropriate Section at least one month before the meeting which is to act upon them. It shall be the duty of the Secretary to whom such papers are sent, to examine them with care, and, with the advice of the Chairman of his Section, to determine the time and order of their presentation, and give due notice of the same. * * * *"—By-Laws, Art. II., Sec. 5.

The following Committees are expected to report:

On Influence of Climate on Pulmonary Diseases in Florida: Dr. E. T. Sabal, Fla., Chairman.

On Animal Vaccination: Dr. Henry A. Martin, Mass., Chairman.

On the Inheritance of Syphilis: Dr. J. W. Thompson, Ky., Chairman..

On Prize Essays: Dr. N. S. Davis, Ill., Chairman.

On Necrology: Dr. S. C. Chew, Md., Chairman.

On Catalogue of National Library: Dr. H. C. Wood, Pa., Chairman.

WM. B. ATKINSON,
Permanent Secretary.

Reviews and Book Notices.

A PRACTICAL TREATISE ON MATERIA MEDICA AND THERAPEUTICS. By *Roberts Bartholow, A. M., M. D.*, Professor of the Theory and Practice of Medicine, and of Clinical Medicine, and formerly Professor of Materia Medica and Therapeutics, in the Medical College of Ohio, etc., etc. New York: *D. Appleton & Co.* 1876. pp. 537.

In his preface, as reasons for presenting to the profession a new work on Materia Medica and Therapeutics, Prof. Bartholow claims as follows:

1. A simpler classification.

2. A consideration of several new remedies, not generally referred to in works of like character.

3. A condensed treatment of individual remedies.

4. A condensed description of physiological actions, most consonant with known facts.

These are reasons good and true, apart from the arrogation of "twenty-two years of clinical experience," and "many independent investigations" contributing "some original knowledge to the subject of Therapeutics."

Let us, by examination, see how far his work sustains his claims.

I. A simpler classification.

Prof. Bartholow's classification is as follows:

Part 1. Modes in which medicines are introduced into the organism.

Part 2. The actions and uses of Remedial Agents.

Those used to promote constructive metamorphosis.

Those used to promote destructive metamorphosis.

Those used to modify the functions of the nervous system.

Those used to cause some evacuation from the body.

Part 3. Topical remedies.

This is simple enough, most certainly.

Under *Part* 1 are included, applications through the *external integument;* the *internal integument*, viz., the broncho-pulmonary, gastro-intestinal, and genito-urinary mucous membranes; the *subcutaneous areolar tissue;* and the *veins.*

In *Part* 2, under *Remedies used to promote constructive metamorphosis*, are Aliments, Water and Hydrotherapy, Pepsin and Lactic Acid, Mineral Acids, Oils and Fats, Mineral Tonics, and Vegetable Bitters, with their Alkaloids.

Under *Remedies used to promote destructive metamorphosis*, are Alkalies, Ammonium and its preparations, Alteratives, (so-called) Metals (as Lead, Copper, etc.), Tannic Acid, and vegetable astringents.

Under *Remedies used to modify the functions of the nervous system*, are Excito Motors, Cerebral Excitants, Cerebral Sedatives, and Motor Depressants.

Under *Evacuants* are Emetics, Cathartics, Anthelmintics, and Urino-Genitals.

Part 3 contains Antiseptics, Counter Irritants, Epispastics, Blood-letting, Escharotics, Emollients, Demulcents, and Protective Agents.

Between the cumbersome classification of Prof. George B. Wood, and the no classification at all of Dr. Sidney Ringer, Prof. Bartholow most certainly strikes a very happy medium. Though one may question the propriety of placing tannin among agents producing waste, and blood-letting among topical remedies, still any classification must be deficient, with our limited knowledge of the physiological actions of many remedies. The supposition is rational, that the simplest classification must therefore embody the least error.

II. A consideration of new remedies, not generally referred to.

If, by new remedies, Prof. Bartholow refers to agents recently introduced, and now undergoing the test of clinical usage, he may be credited with good articles on Apomorphia, Eucalyptus, Jaborandi, Croton Chloral, Salicylic Acid, and Salicin.

If, however, his reference is to agents not found in other recent works on Therapeutics, his claim is invalid, since both Sidney Ringer and H. C. Wood write fully on the above agents, and certain Botanic remedies, such as Hamamelis, Sabbatia, Alnus Serratula, and others are found in the lists of other schools.

His book, however, contains articles on several subjects not usually treated of in works on Therapeutics; viz., An elaborate article on Alimentation, considering foods, animal and vegetable, special plans of diet and alimentation in disease; a full list of Chalybeates, Saline, Alkaline, and Sulphurous Mineral Waters; a clear and concise article on the kinds and uses of Electricity; excellent directions for and against the use of Anesthetics; and good but brief articles on the combined use of Morphia and Atropia, and the theory of counter irritation.

III. A condensed treatment of individual agents. This claim is most fully substantiated.

The method of treatment is excellent, and as follows:

1. The Drug with English, French, and German synonyms.
2. Its various preparations with doses.
3. Antagonists and Incompatables.
4. Synergists; viz., Remedies which assist its action.
5. Physiological Actions.
6. Therapy.
7. Authorities referred to.

Each article also is wonderfully condensed and simplified by excluding all botanical, chemical, and pharmaceutical details, except so far as to explain compound preparations or incompatability. This seems to us proper and advantageous. There is no more reason why such details should enter a work devoted mainly to therapeutics, than that descriptive anatomy should be bound up with a work on surgery. Among "various

preparations" are included all popular or valuable ones that are unofficinal, with frequent directions for their combination. The lists of synergists are also valuable and instructive. The sections on physiological actions are brief, and to the point; while those on therapy include all established uses of the several remedies, whether suggested by physiological actions or obtained from long clinical experience. Scattered throughout each section on therapy are many formulæ drawn from his own experience, or that of men eminent in the profession. An excellent feature of this method is the placing of authorities quoted, in a list at the end of each article, rather than in foot notes, or in brackets on the pages.

IV. The fourth claim; viz., a condensed description of physiological actions, most consonant with known facts, is equally well maintained.

Whoever has read the recent able and scientific work on Therapeutics, by Prof. H. C. Wood, must, at times, have been thoroughly confused by the conflicting physiological actions assigned by eminent authorities, to the same remedy. This has been avoided by Prof. Bartholow. Where physiological actions are well established, they are briefly given. Where there is uncertainty, the doubt is stated, and the best authenticated actions are given as the probable ones. Much confusion and needless discussion is thus avoided.

If there is a weak element in the work under discussion, it lies in the empirical basis of much of the therapy. To use Prof. Bartholow's words; "Although convinced that the most certain acquisitions to therapeutical knowledge must come through the physiological method, I am equally clear that well established empirical facts should not be omitted, even if they are not explicable by any of the known physiological properties of the remedies under discussion."

This expressed intention has been fully carried out in his work, and detracts from its scientific character. While excuse may be found in the fact that extended physiological experiment is daily establishing many clinical experiences, still it is equally true that a popular empirical fact of to-day may become a fiction to-morrow. A graver objection, however,

rests in the license it gives the author to state personal theories and beliefs. It is creditable to Prof. Bartholow that he has availed himself so little of the opportunity.

To sum up—Prof. Bartholow has given to the profession a valuable work on Therapeutics—and one bound to be popular. Its excellencies consist in a very simple yet sufficient classification—the exclusion of all unnecessary details—a clear, concise, readable style—a most excellent method of treating individual subjects—and a practical therapy. As the "learned and encyclopædic volumes" of Stillé are best suited for reference, and the scientific work of H. C. Wood is the best exponent of the physiological research of the day, so is the practical book of Bartholow the best hand-book for the medical student and busy practitioner. J. S. K.

TEXT-BOOK OF HUMAN PHYSIOLOGY—DESIGNED FOR THE USE OF PRACTITIONERS AND STUDENTS OF MEDICINE. By *Austin Flint, Jr., M. D. D. Appleton & Co.*, 1876.

This book is of too high an order to be written upon after a mere cursory examination. This is our only apology for so late a review.

The opening chapter is devoted to the consideration of the blood, seemingly in accordance with that old theory, "the blood is the life," which becomes more and more true in the light of modern science. The exposition is worthy of the subject; we can take time for the disputed questions only. The first we notice is in regard to the existence of a nucleus in the red corpuscle, which the author denies, but which we believe is acknowledged by some very good authorities—though we ourselves have always considered the so-called nucleus simply an optical effect. There seems, however, to be sufficient reason to consider the question as still an open one.

The next point is in reference to the development of the corpuscle, and the radical view the author takes of this is in great contrast to the conservative views which he takes of certain other subjects. The theory of the development of the red from the white corpuscles, is unequivocally denied. "They

appear by genesis in the sanguineous blastema," is the author's language. As to the leucocytes, the experiments of Onimus are cited to prove that the "corpuscles may be developed under *favorable circumstances* in a perfectly clear homogenous blastema." The italics are our own, for it is upon these "favorable circumstances" that the whole question hinges. What are they? First, the liquid was placed under the skin of a *living* animal. If the corpuscles are developed in the blastema, de novo, why not secure for it, the blastema, the same temperature and the same osmotic action, both purely mechanical, entirely *away from* a living animal. We must confess this getting so close to a living animal, looks very suspicious on the part of "spontaneous generation."

Second, when *too thick* an animal membrane was used, or when the same blastema was enveloped in a sac of caoutchouc or in a glass tube hermetically sealed, there was no development of leucocytes. "From this it was concluded that osmotic action is a necessary condition, and that the mere heat of the body is not sufficient to develop these corpuscles, even in an appropriate blastema." Our version would be this; from this it was concluded that the membrane must be sufficiently porous to admit either cells or the germs of cells, which abound in the connective tissue and lymphatics just beneath the skin of any living animal, that possesses a skin. In order to be conclusive, the conditions of the experiment should preclude the possibility of the entrance of germs, but we observe that whenever such possibilities were precluded, no cells were formed.

The theories in regard to the constitution of the blood plasma are fairly discussed; that of Denis is the one adopted, and is altogether the most plausible; viz., that the blood liquor is composed of plasmine and serine. The decomposition of plasmine results in coagulable fibrin and dissolved fibrin or metalbumen. This does away with the necessity of admitting the existence of paraglobulin (fibrinoplasm) and a ferment —fibrinogen, as proposed by Schmidt and adopted by Virchow and others. The other constituent serine is simply osmotic albumen, probably corresponds to albumenose, a diffusible albumen.

The chapter on the heart is most excellent. The diagrams are especially fine—from Bomany and Beace. The influence of respiration on the action of the heart, is not explained as fully as might be. The fact that during expiration the internal pressure is greater than the external, whereby the pressure upon the heart and its great vessels is correspondingly increased, is not even suggested.

The cause of arrested circulation in asphyxia is said to be mechanical; "unaerated blood cannot circulate in the systemic capillaries." We believe it has been demonstrated by direct experiment, that black blood circulates as well as red—the cause of the stasis is not in the action of the venous blood upon the vessels or heart directly, but indirectly through the nerve centres, whose function is arrested by this venous blood. This is the theory of Bichat, and is certainly the most reasonable. As to the cause of the rythmical contraction, the author very truly calls it an inherent property of the muscular fibre. The function of the nerve of Cyon and the co-operation of the splanchnic with that nerve are very lucidly explained.

In the causes of respiration, the very cause of causes—inequality of pressure—is not mentioned, whereas the whole mechanical apparatus of respiration, is subservient to the production of this inequality.

The chapter on alimentation is full, and we are glad to see that the author takes no equivocal position on the alcohol question. "Under ordinary conditions, where the organism can be adequately supplied with food, alcohol is undoubtedly injurious. * * * The effects of its continued use, conjoined with insufficient nourishment, show that it cannot take the place of assimilable matter." While Dr. Hayes' testimony cannot be disputed that "strong, able-bodied men have become utterly incapable of resisting cold in consequence of the long-continued use of alcoholic drinks."

The subject of digestion is amply considered, the author deciding that it is lactic and not hydrochloric acid that is found in the gastric juice. In the syllabus of this chapter we find this heading: "Action of the gastric juice upon the coats of the stomach," but we find nothing on this subject in the text.

The physiological anatomy of the small intestine, is especially

commendable. The drawings are from Sappey, and need no recommendation other than the name of that master anatomist. The villi and the patches of Peyer are as nearly as possible the actual objects themselves. We find no function assigned the patches, though for some years, many of the German physiologists and histologists have classified them as a part of the great lymphatic system. This whole question of ductless glands or lymphoid organs, as Frey terms them, marks one of the conservative positions of the author. Apropos of this we find further along that the vermiform appendix has no function. (?)

The action of the pancreatic juice on fats, the author, in accordance with the best authority, considers as mechanical, not chemical. It is demonstrated by Hoppe-Seyler and others, that pancreatine is composed of three separate ferments, acting respectively on the three kinds of food; and that the spleen directly influences the ferment that acts upon the albuminoids—facts not stated by Prof. Flint.

On the function of the bile, the author says this fluid has nothing to do directly with the digestion of any of the alimentary principles. Thus all the old theories are demolished, but no new one established, unless we accept that of Küss and his school, viz., that the bile renovates the mucous membrane, especially the epithelial element, which is the active agent in the absorption of fats. This theory is certainly worthy of consideration, though it is not mentioned by the author.

The most important subject in the chapter on the larger intestine is that of stercorine, or transformed cholesterine; and we may say here that the chapter on cholesterine is one of the most instructive in the whole book. Prof. Flint deserves great credit for his investigations of this subject, not only on account of its physiology, but its pathology, for he has demonstrated that the blood poisoning which follows serious structural disease of the liver, is due to this retained excretion,—cholesterine,—and has named the disease cholesteraemia.

Absorption is well discussed, especially that of the lymphatic system, though the author agrees with Sappey in disagreeing with Recklinghausen and his school, as to the origin of the

lymphatics in the connective tissue by means of canaliculi or lacunæ. The attempted explanation of the absorption of fats by means of stomata in the coats of the vessels, is, it seems to us, entirely inadequate when applied to the absorption of the small intestine, for before the fat enters the vessels it enters the epithelial cells of the villi—they are found filled with fat granules during digestion. While it is probable there are stomata in the coats of vessels, it is hardly probable they exist in the walls of these cells, unless they exist as the "pore-canals" discovered by Funke and Koelliker many years ago.

The author denies the formative action of the lymphatic glands in the production of leucocytes, but it is easy to see that he is obliged to do this in order to sustain his theory of the blastema formation. As regards the application of physical laws to the function of absorption, it is of no avail as applied to the absorption of fats, and we can but agree with Longet and others, that osmosis loses its force in the presence of living elements. Indeed, the whole phenomena of secretion can be accounted for in no other way save to say that the cell has inherent power to take what it wants.

The presence of urea in the lymph in greater quantity than in the blood, demonstrated by Bernard, is very suggestive of the function of the lymphatics.

The distinction between a secretion and an excretion, made first, we believe, by Simon, is well maintained by the author, viz., "that a secretion is never discharged from the body; it has a function to perform, and it is never found in the body after the peculiar gland cells that form it are destroyed," while an excretion is just the opposite. The secretion of milk seems to be an anomaly in the mechanism of secretions, for milk, instead of being the product of glandular cells, seems to be the product of an amorphous membrane, but we venture a prophesy that this is only a seeming.

While the anatomy of the kidney is accurately given, the results of that anatomy are not followed out; indeed, the fact of increased blood pressure in the glomeruli, is mentioned only incidentally, whereas it is the great factor in the mechanism of renal excretion.

One of the most instructive divisions of this subject of the kidney, is that which treats of the influence of muscular exercise upon the composition of the urine. This embraces the substance of the author's well-known observations in the case of the pedestrian Weston, in which he found the amount of urea increased daily 15 per cent. above the average. Directly the opposite result was obtained some ten years ago by Fick and Wislicenius, but as the observation extended over one day only, the result cannot be considered reliable. As to the influence of mental exertion the author considers that no one more than another of the solid matters is increased, though many authors claim an increase of the phosphates.

The chapter on the liver is perhaps the most thoroughly scientific part of the whole book, containing much of original investigation. The double function is well demonstrated, but not so the double structure maintained by many histologists. The experiments in regard to cholesterine and glycogen, and the deductions drawn therefrom bear the stamp of true scientific spirit, and we may say here that the author's manner of summing up deductions, and his pertinent questions by which he keeps constantly before the mind just what he is searching for, makes the book of invaluable benefit to the student. While it imparts information, it imparts it in a disciplined, methodical manner.

Altogether, it is the most perfect text-book on the subject of physiology we have found in the English tongue.

S. H. S.

On Addison's Disease: Being the Croonian Lectures for 1875, delivered before the Royal College of Physicians. Revised and illustrated by plates and reports of cases. By *Edward Headlam Greenhow, M. D., F. R. S.*, etc. Philadelphia: Lindsay & Blackston. Octavo. pp. 212.

This book comprises three lectures, and, in an appendix, detailed reports of 37 cases, which in their histories support the views of the author, while in another appendix are arranged, in groups for the most useful study, 333 cases, which the author has collected as bearing upon the subject of Addison's disease.

The first lecture is devoted mainly to a careful description of Addison's disease, "together with the true characters of the pathological lesions, in and around the supra-renal capsules," found to exist in this affection. One of these lesions consists in the infiltration of the capsules by "an inflammatory exudation of a low type, which destroys the natural structure of the organs, and finally itself undergoes caseous degeneration." There is clear evidence of inflammation in the cellular envelope of the capsules, from which arise adhesions of these masses to adjacent structures, and hypertrophy of the fibrous investment of the nerves, giving the appearance of a thickening of the latter, when really their structure is not changed.

In the second lecture the author has endeavored to show "the concurrent testimony of facts in proof of the real connection subsisting between the clinical symptoms of Addison's disease and the one specific lesion in the supra-renal capsules;" and "the baseless nature of the misconceptions which have prevented the general recognition of its reality."

In the third lecture, an explanation of the etiological and pathological processes of the disease is attempted. Dr. G. believes the great increase of connective tissue in and around the capsules, compressing not only the nerves of these structures, but influencing if not seriously injuring the solar plexus and semi-lunar ganglia in the neighborhood, to be the true key to the explanation of all the symptoms. The mere destruction of the capsules and the abolition of their functions, he is sure cannot account for the phenomena.

These lectures are a scholarly and searching review and presentation of the subject. The value of the book is very greatly enhanced by the two appendices, and by the five elegant plates that illustrate the text.

LECTURES ON FEVER: Delivered in the theatre of the Meath Hospital and County of Dublin Infirmary. By *William Stokes, M. D.*, etc. Edited by *John William Moore, M. D.*, etc. Philadelphia: H. C. Lea. 1876.

Here are 33 lectures on the subject of Fever, by an eminent man. Their delivery was spread over many years—nearly

twenty; they were not delivered in any systematic order; notwithstanding careful revision, all the contradictions furnished by one lecture of the opinions expressed in another, have not been eliminated; considerable space is devoted to the discussion of the separate identity of typhus and typhoid fevers—a discussion utterly useless to an American student; they are bare of histological research, and of any study of the chemico-vital states of the fluids or the organs. While we discover in these facts serious drawbacks to the completeness and value of the work, and a reason why it will not find its way to the tables of many practitioners; the lectures contain a vast deal of the history of the study of fever, and the writings upon it, beside an exhaustive discussion of several important phases of the subject.

REPORT OF THE FIFTH INTERNATIONAL OPHTHALMOLOGICAL CONGRESS held in New York, September, 1876. Published by a committee of *H. Knapp*, *H. D. Noyes*, *Chas. S. Bull* and *R. H. Derby*. New York : Appleton & Co. 1877.

The peculiar feature of the late *International* Congress was the great scarcity of European delegates; seven oculists were all that the old world could afford to send across the water for the occasion!

A great many papers were read; but the most of them as we naturally may expect of papers which are to be submitted to an assembly of specialists,—dwell upon very special topics and theoretical speculations, from which the physician cannot derive any practical information in regard to the management of diseases of the eye.

The question of introducing the meter-measure for the determination of lenses was brought again before the congress. This innovation has been agitated ever since 1867, and after a full discussion pro and contra at the meetings of the previous congress and in the ophthalmological journals, the project seemed to have gained the support of the leading ophthalmologists. At least, no opposing voice was heard at the congress, though no definite action was taken in the matter.

Most of the papers, being presented by American oculists,

the report reflects great honor upon the scientific energy of our specialists.

The report is printed on very good paper, and *neatly bound*, an improvement which we hope the publishing committee of the future congress will adopt.

BOOKS AND PAMPHLETS RECEIVED.

The Practitioner's Hand-book of Treatment; or The Principles of Therapeutics. By J. Milner Fothergill, M. D., etc.

The Microscopist; A Manual of Microscopy and Compendium of the Microscopic Sciences, etc., etc. Third Edition, rewritten and greatly enlarged. By J. H. Wythe, A. M., M. D.—1877.

A Course of Practical Histology; being an introduction to the use of the microscope. By Edward Albert Schäfer, Asst. Prof. Physiology in University College, London, 1877.

Principles of Theoretical Chemistry, with special reference to the Constitution of Chemical Compounds. By Ira Remsen, M. D., Ph D., etc., 1877.

The Tonic Treatment of Syphilis. By E. L. Keyes, A. M. M. D., etc., 1877.

Annual Report of the Supervising Surgeon-General of the Marine Hospital Service of the U. S., for 1875. John M. Woodworth, M. D. 1876.

A Practical Treatise on the Diseases of Children. By J. Forseith Meigs, M. D., and William Pepper, A. M., M. D., Sixth Edition, Revised and Enlarged. Philadelphia. Lindsay & Blackiston, 1877. Price $6.00.

Myelitis of the Anterior Horns or Spinal Paralysis of the Adult and Child, by E. C. Seguin, M.D. New York, G. P. Putnam's Sons, 1877. Price $1.50.

General Index to the New York Medical Journal, from April, 1865, to June, 1876. By James B. Hunter, M. D., New York. Appleton & Co., 1877.

Report of the Board of Health of the State of Georgia for 1876, with appendix, etc.

Transactions of the Nebraska State Med. Society at its 6th, 7th and 8th Annual Meetings.

Annual of Syracuse University. 1876-1877.

An Essay on New South Wales, the Mother Colony of the Australias. By G. H. Reed. 1876.

Principia; or, Basis of Social Science. By R. J. Wright.

Illuminating Oils in Michigan. A Lecture. By R. C. Kedzie, Member of the Board of Health.

On Some Conditions, Physical and Rational, in Effusions of the Pleura. By Beverly Robinson, M. D.

Annual Announcement of the Medical College of the Pacific. Session of 1877.

Annual Reports of Cook County Agent, Warden Insane Asylum and Poor-house, Medical Superintendent Cook County Insane Asylum, Warden Cook County Hospital, Cook County Physician, and Coroner, for the year 1876.

Catalogue of the Trustees, Professors and Students of the Jefferson Medical College for Session 1876-7.

First Annual Report of the State Board of Health of Wisconsin—for 1876.

On the Differential Indications for the Use of the Faradic and Galvanic Currents. By A. D. Rockwell, M. D.

Considerations in Relation to Diseases of the Joints. By David Prince, M. D.

The Operation of Vesico-Vaginal Fistula: A Comparison of the Methods of Operation of N. Bozeman, M. D., of New York, and Prof. Gustav Simon, of Heidleberg. Translated by A. C. Bernays, M. D.

Fifth Annual Report of the Board of Trustees of the New York Ear Dispensary. 1876.

A Case of Ovariotomy. By David Prince, M. D.

Obituary.

PROF. JOSEPH W. FREER.

Joseph W. Freer was born at Fort Ann, Washington Co., N. Y., Aug. 19, 1816, from Holland blood on the father's side, and from the English Puritans of New England on the mother's. He worked on his father's farm until his nineteenth year, acquiring during this time but the rudiments of learning. He then entered a store in a neighboring village, in the capacity of clerk. He remained here but a short time, and in June, 1836, he migrated to Illinois. Here he devoted himself to agriculture, making a claim on the Calumet River, not far from Chicago, but he was obliged to abandon it in consequence of sickness. He then opened a farm in Will County, Ill., in which he was among the earliest settlers, where he remained until 1846. He was married in 1844. His wife died in 1845, leaving to him an infant son. He was dissatisfied with the medical treatment of his wife in her last sickness, and this circumstance made him determine to study medicine. With limited literary attainments, and with his hard preliminary experience in life, when thirty years of age, he made his way to Chicago, and placed himself as a private pupil in the office of Daniel Brainard. He was graduated from Rush Medical College in the class of 1848–49. He again married in 1849, and leaves at his death his widow and four surviving children. Soon after his graduation, he was appointed demonstrator of anatomy in Rush Medical College, and when Professor Herrick retired from the chair of anatomy in 1855, Dr. Freer was appointed to his place. In 1859 he was transferred to the chair of physiology and military surgery. When Dr. Blaney resigned the presidency of the school during the winter of 1869 and 1870, Dr. Freer was elected to the position, which he held to the time of his death. At the close of the recent session of lectures in the college he seemed enfeebled by the hard work

of the winter. Soon after, he stood several hours in the dissecting-room of the college, when it was imperfectly heated, giving his son instructions in dissection, and from this exposure he took a severe cold, which sent him to a sick bed on the 1st of March, from which he passed to his final rest on the 12th of April following.

His symptoms indicated meningeal inflammation at the base of the brain, and the autopsy proved the accuracy of the diagnosis. Prof. Freer was a self-reliant man, of marked individuality of character. He held all sham and pretense, and falsehood in the garb of truth, in hearty detestation. His opinions of men and events were open to the world, and what he believed he feared not to utter. He made no great claims for himself, but was content to let his life speak for him. His mental qualities were solid and strong, but not brilliant. He had a clear judgment, and great perseverance, and viewing an object before him worthy to attain, he pursued it with a tireless purpose. He led a pure, temperate life of integrity, and was moved by worthy motives. He was sensitively honorable in his relations to the profession. He was honest with his patients, and gave to the consideration of their cases careful study and assiduous attention, and both in medicine and surgery was eminently conservative in his treatment, a practice which added largely to his usefulness.

Though he was always a laborious practitioner, he loved the science of his profession better than its practice, and this doubtless contributed much to his attainments and success. As a teacher, he mastered his subject, and presented it in clear, simple and forcible language, and never submerged his thoughts in superfluous words. He stood among the representative men of his profession in America, and his example is of great value to the young, and is abundantly worthy of their imitation, while to those who have long wrought well in the profession, it lends reflected honor. Such men add dignity to cities and States in which they labor, and any community that holds them in its midst may well give thanks.

Medical News and Items.

DR. J. W. FREER. A meeting of the physicians of Chicago was held on the evening of April 13, to pay their tribute to the memory of the esteemed late president of Rush Medical College. The following resolutions were adopted as expressing the sentiment of the profession :

In Memoriam—Joseph Warren Freer. Born Aug. 10, 1816. Died April 12, 1877.

His professional associates, townsmen, and friends, meeting to pay their tribute of respect to his memory, and to express their sentiments of his life, after deliberation, have formally expressed, and desire to put on record, this estimate of his character, his life, and his services.

Reared amid the drudgery of farm life and deprived of all but the most meagre education, Prof. Freer acquired early a love for knowledge, that made him always a learner for the sake of learning.

He honored the vocation of agriculture in his early years by his thrift and enterprise, and improved it by his study of its best methods.

When—late in life to begin the acquisition of a new profession—he took up the study of medicine, he gave to it that enthusiasm which he had learned to give to all study, and the vigor of a manhood made strong by toil and sobriety and self-denial. He remained a faithful, humble student through life.

As a student of medicine he was original, and he enriched the science of physiology by important discoveries. He attained a position in the profession which few may hope to attain, but his advancement was slow and came by hard work and faithful service. His contentment in earning a position without grasping for it, and his high reward finally, furnish an example in the highest degree worthy of emulation.

In his college relations he was always warmly attached to his colleagues, and this feeling was heartily reciprocated. He was a hard-working teacher. He taught the facts of his branch with no attempt at flourish or embellishment, satisfied to let great principles be their own adornment. He was ever regarded with affection by his classes, who were wont to call him by some homely sobriquet of endearment.

He was a man of but few words, but his words were laden with thought. His speech was rugged, yet always fine and expressive in its vigor. In his opinions he copied from no man,—they were his own,—and in the expression of them, as well as in all the acts of his life, his courage was without weakness.

His loyalty to his friends was proverbial. He loved right, and was conscientious in the performance of what he regarded his duty. If he hated anything it was wrong, and, if he were unrelenting toward anything, it was toward what he believed to be wrong action on the part of those who knew the right.

An exemplary citizen; a dignified, courteous gentleman in his daily life; in his domestic life beyond reproach; a man of high attainments in his profession, and who has rendered fine service in the advancement of science; and a conscientious teacher; the career of Prof. Freer is one that his friends and family may be proud of, and that the profession may well strive to imitate.

In this dark hour of his family's distress, we unite our warmest sympathy and love with that of his many patrons, to whom he was always most cordially and devotedly attached.

Upon learning of the death of J. W. FREER, the *students of Rush Medical College* met in the lecture room; Mr. W. E. Hall acting as chairman. The committee named below was appointed, who drafted the following resolutions which, upon presentation, were adopted:

WHEREAS In fulfilment of the natural laws which Almighty God has established to govern the life and destiny of Man it has pleased Him to remove from our presence, by the hand of death, our esteemed President and Instructor, Dr. JOSEPH WARREN FREER. Therefore

Resolved, That in his death the students of Rush Medical College have lost their kindest friend, one of their most respected instructors; the institution its worthy President, and the scientific and medical world one of its ablest leaders.

Resolved, That we tender to his family our individual and united sympathy.

Resolved, That we attend the funeral as a class.

Resolved, That these resolutions be furnished to the press of the City and the Medical Journals of the country, and that a copy be presented to the family of the deceased.

A. L. CRAIG, Chairman; A. E. BALDWIN, Sec'y; W. L. SMITH, J. H. BURLINGAME, C. A. HAYES, M. D.

In consequence of the death of Professor JOSEPH W. FREER, the following changes have occurred in the faculty of Rush Medical College:

J. Adams, M. D., LL. D., Professor of Principles and Practice of Medicine, has been elected President of the Faculty.

The chairs of Physiology and Nervous Diseases have been consolidated, and Professor Henry M. Lyman has been elected to fill the position thus created.

Dr. D. R. Brower, late Superintendent Eastern Lunatic Asylum of Va., has been appointed Attending Physician for Mental and Nervous Diseases at St. Joseph's Hospital; this position was occupied by Dr. Walter Hay, and was made vacant by his departure from the city.

A meeting of the Provisional Association of American Medical Colleges will be held at the Palmer House, Chicago, on Saturday, June 2d, 1877, at 10 o'clock, A. M. All colleges represented at the meeting of the Association held June, 1876, are invited to send delegates to the ensuing meeting, and all chartered medical colleges in the United States recognized as "regular" by the colleges already represented in this Association, are also invited to send delegates from their Faculties to the said meeting. J. B. BIDDLE, M. D., *President.*

Prof. Frank H. Hamilton has just paid a brief visit to this city. Prof. Gunn gave a reception at his residence, at which a large number of the medical teachers of the city had the pleasure of meeting Dr. H. It is delightful to observe how lightly the labors of his life touch him, and with what dignity and grace he wears his honors.

The annual meeting of the Michigan State Board of Health was held in Lansing, April 10, 1877. Dr. R. C. Kedzie was elected president for the ensuing year.

THE ANATOMIST, an oil painting by G. Max, was so much admired by the visitors of the Centennial Exposition, that the general desire to possess a copy of the original induced Mr. R. Behrendson, (48 and 50 Nassau Street, New York), to have a cheap etching made, which can be had for one dollar.

THE CHICAGO MEDICAL SOCIETY. This society, which is the oldest medical organization of the city, held its annual meeting on the evening of April 2d.

All the officers were re-elected to serve another year, viz.: Dr. E. Ingals, President; Dr. H. M. Lyman, Vice-President; Dr. D. W. Graham, Secretary; Dr. C. W. Earle, Treasurer.

The secretary's annual report showed that the past year had been a very prosperous one for the society, in the increased attendance, the character of the papers and reports presented, and in the general interest manifested by the members.

The Society has a membership of one hundred and twenty-five.

The Board of Regents of the Michigan University have resolved, if the legislature will make a sufficient appropriation to cover the additional expense, and to make up for the deficit that would result in the income of the Medical Department by the step proposed, to lengthen the term of lectures in this department to nine months, and to establish a physiological laboratory of a high order for the use of both medical colleges. They ask the legislature also to appropriate funds for carrying on the hospital connected with the department—otherwise this will be closed. They proffer a part of the hospital for the use of the homœpathic college professors for clinical instruction.

The veteran and accomplished editor of the *American Medical Bi-Weekly*, in the March 17th issue, says: "Since the failure of Messrs. W. B. Keen, Cooke & Co., the publishers of this journal, (THE JOURNAL AND EXAMINER), it has reäppeared." We wish to say to Professor Gaillard that THE JOURNAL AMD EXAMINER has never *dis*appeared—consequently its *re*äppearance is an impossibility. Since its first appearance in September, 1875, it has been regularly and promptly issued. The trifling matter of the change of publishership can never cause this periodical to delay in its regular appearance, much less to *dis*appear so as to *re*äppear. THE JOURNAL AND EXAMINER is a *success, financially*, as our readers may well infer from its increase in size after June, of this year, and our friends need have no fear of its collapsing.

The medical editor of the *Syracuse University Herald* arraigns the Faculty of the College of Physicians and Surgeons of N. Y., for conferring the degree of Doctor in Medicine upon one Henry L. Elsner, of Syracuse. The Faculty is accused of disregarding every one of its five requirements for graduation. E. was sixteen months under the required 21 years of age, had read medicine one and one-half years, had attended *half* a course of lectures in Syracuse Medical College and one course at the College of Physicians and Surgeons, and his preceptor was *not* recognized in Syracuse as a "physician in good and regular standing." The medical editor of the *Herald* concludes that E. cannot comply with the fifth and last requirement, viz., to possess a good moral character, if he swear that in other respects he had complied with the usual requirements. It seems that E. graduated with honor, for he received a twenty-five dollar prize for the excellency of his thesis.

EYE AND EAR INFIRMARY.—The tenth biennial report of the trustees, surgeons, and treasurer of the "ILLINOIS CHARITABLE EYE AND EAR INFIRMARY," has reached us. The report covers

the twenty-two months from January 1, 1875, to October 1, 1876. During this time 2,478 patients received gratuitous treatment at the dispensary; 220 had free board and treatment in the infirmary; and 80 received gratuitous treatment at the institution, their board being paid by friends or from their own limited means.

Of the total number, 2,332 were treated for diseases of the eye, and 446 for diseases of the ear. Operations on the eye are recorded 368, of which 31 were performed for cataract, 44 for strabisums, 63 for artificial pupil, and 33 for extirpation of the eyeball.

The medical board of the infirmary consisted of H. A. Johnson, M. D., Edward Powell, M. D., J. W. Freer, M. D., as consulting surgeons; E. L. Holmes, M. D., and F. C. Hotz, M. D., attending ophthalmic surgeons; S. J. Jones, M. D., attending aural surgeon; and I. N. Danforth, M. D., microscopist.

The new infirmary building (corner of Adams and Peoria streets) was completed in October, 1874, at a cost of forty-two thousand, six hundred and ninety-three dollars. Of this sum the State had appropriated twenty-eight thousand dollars. The balance had been accumulating from donations, interest and subscriptions. The lot on which the infirmary stands was also donated to the institution.

The institution is under the supervision of a board of trustees, appointed by the governor of Illinois.

The following certificate will admit a patient residing in Illinois to the infirmary, for gratuitous treatment and board:

"*This is to certify that ..... of the town of .....county of ....., State of Illinois, is absolutely without means to pay for his (or her) board, or treatment at the Illinois Charitable Eye and Ear Infirmary.*"

This certificate must be signed by the supervisor of the town, or the judge of the county court of the county in which the patient resides.

Summary of Progress in the Medical Sciences.

I. Obstetrics and Gynecology.

Viability of a 6 months fœtus. Dr. Githens. (*Amer. Jour of Obstet. and Diseases of Women and Children.* Oct., 1876.

The child was born May 20th, 1876. Dr. G. would not allow it to be washed, and had it wrapped in cotton, which was changed daily. This dressing was continued for two or three weeks. The child was fed on milk and cod's liver oil until able to nurse. "This infant has shown its ability to support an independent existence at the early age of 178 days, or six calendar months," a conclusion reached by Dr. G. after carefully determining the exact time of the last visit home of the father of the child.

Synopsis of Four Hundred Cases of Obstetrical Practice. Kinsman. (*The Ohio Med. Record,* Feb., 1877.)

Of the four hundred cases of labor that occurred among well-to-do people, there were born, of three hundred and forty-seven mothers, four hundred and eleven children. Of the cases, nine were twins, and one triplets. Some part of the cephalic extremity presented in three hundred and eighty-nine cases; and of the face, two. Back presentations, six, one of knee and four transverse.

There were twenty-five deliveries with forceps; of these, it was applied three times at superior strait. Podalic version was performed five times. "Cephalic version" was not successfully performed, the waters escaping being the cause of failure. Of the five children turned, three were born living, the other two were dead before operation.

Only one case of prolapsus of funis is mentioned. One case of short cord, 10 inches in length, still birth, is reported; eleven were born dead; five had been dead for some time, one perished in placenta prævia, one in rupture of uterus, one from cerebral hemorrhage, one footling, death occurring, after escape of body, two while mothers were in convulsions, and one delivered dead with forceps. Six mothers died from the immediate cause of labor, viz.; Rupture of uterus, placenta prævia, puerperal convulsions, embolism of middle cerebral artery, septicæmia and peritonitis. The complications of labor were as follows: Convulsions, four times; agglutination of neck of womb, once; rupture of uterus, once; fibroid tumor, once; placenta prævia, three times; adherent placenta, twice; post-partum hemorrhage, ten times.

Of the defects of organization, the following cases were reported: One

of imperforate anus, one of atresia of vagina, one of agglutination of meatus urinarius, one of hair lip, one of redundant fingers and toes, and one of cyanosis from cardiac defect. Of the three hundred and forty-seven cases, one hundred and nine were primiparæ. The second stage of labor averaged about four hours. The longest labor was seventy-two hours, and occurred in a woman forty-seven years of age. The forceps were used in twenty-five cases; the following occasioned its use: convulsions, three times; impacted head, three times; spasms of uterus, five times; face presentation, once; exhaustion, with head at sup.strait, three times; threatened exhaustion, with head in sup.strait, eight times; failure to rotate, two times.

Of the forceps deliveries, four children were born dead, two where the mother had convulsions, one where there was threatened peritonitis, and one impaction of the head. Two of the mothers that were delivered with forceps died; of septicaeima, one, and of peritonitis, one.

W. F. L.

The Relations of Albuminuria to Pregnancy. MARTIN. (*Proceedings of the Med. Society of the County of Kings.* Vol. I. No. 10.)

That albuminuria in pregnancy is vital and not mechanical, is argued, and supported by a collection of cases by Dr. M. The cases reported show that; death of the ovum will relieve severe and progressive uremic symptoms, even without its removal from the uterus. One of the cases is as follows: A lady, having passed a single period only, consulted her physician for relief from distressing headache, disturbances of vision, nausea, etc. Albumen having been discovered in the urine, the usual remedies were applied, without benefit. Interference with the impregnated uterus being denied her, she went to a quack doctor in New York City, who introduced a sound into the uterus every week, for seven consecutive weeks before the contents were discharged.

Patient said that soon after the first introduction of sound, she experienced great relief. Returning home to her family doctor, her urine was examined, and found perfectly normal. Two years later she again became pregnant, the same line of symptoms following as before, and the urine loaded with albumen. Again the ovum was destroyed, with same relief to patient. Ten days after the uterus had been emptied, urine was examined, but showed no trace of albumen. In the cases reported, no cause coincident and concurrent with pregnancy, and yet independent of it could be detected. As to the origin of albuminuria in early pregnancy, when the womb is not sufficiently large to make pressure on the renal circulation, the author says: "When an ovum is fertilized, a profound impression must be made upon the nervous centres, which preside over the process of nutrition. The rapid and complete growth of the fœtus; the establishment of a new vascular system for its support, demand large applications of nutritive force. The medium through which these impulses are transformed into actions, is the great sympathetic nerve. The first steps toward any change of nutrition are accomplished by the agency of

the vaso-motor nerves. The blood being ready to furnish material, the capillary circulation must be ready to take it up. And this condition of excitation must be maintained by the action of the sympathetic nerves during the whole time that an extra supply is needed. The uterus and kidneys are certainly associated organs, and it is, therefore, at least probable, that an influence derived from the unusual nutritive activity in the uterus may be reflected from the nervous centre through the usual nerves, and being continuous, may stimulate or alter the interstitial circulation of the kidney in such a way as to produce albuminuria."

W. F. L.

Child-bearing and its Effects on certain forms of ear disease. F. M. PIERCE, M. D., of Manchester. (*Obstet. Jour. of Great Britain and Ireland*, 1876.)

P., in a paper read before the last meeting of the British Medical Association, drew attention to the occurrence amongst a certain class of patients, of marked increase in deafness, and in the gravity of the symptoms of ear disease, due to pregnancy, parturition, &c. The form of aural mischief most aggravated by these processes, was chronic non-suppurative inflammation of the tympanic cavities. After each confinement, the patients were much worse, the hearing diminished, and the tinnitus aurium was more marked. The deterioration was very persistent, and extremely obstinate; and ultimately, after repeated confinements, the hearing was almost entirely abolished. Young, strong, and apparently healthy females were the chief sufferers; often they had never had any ailment in their lives. The aural deterioration began with pregnancy, and increased onwards to parturition, after which the effect remained: a result by no means comparable with the temporary aggravation seen during other constitutional affections, fevers, &c. Other forms of ear disease were not affected in the same permanent manner as chronic non-supperative inflammation of the tympanic cavities. No history of any syphilitic taint could be detected in these cases. Whether the effect on the aural condition produced by child-bearing was only part of a general diminution of nerve power, and in no way due to the special condition of pregnancy, &c., apart from its constitutional deterioration, was matter for further observation, though the facts were in favor of its being caused by the state peculiar to pregnancy. Early attention to treatment was most important to these patients.

Premature labor, induction of, by a new apparatus. DR. CHASSAGNY (*Archives de Tocologie*, 1876.)

Dr. Chassagny describes a new apparatus for the induction of premature labor. It consists of a double dilating bag, each bag being filled by a separate tube, so that the tube which communicates with the upper bag passes through the lower. The lower bag is made of thick india-rubber. It is inserted into the vagina, and dilated with air or water, the effect of which is to induce uterine contractions. The upper bag, which is made

of extremely thin india-rubber, is then filled with water. As it is supported by the thick bag below, the effect of this is that it insinuates itself into every pouch of the vagina, and sends out a finger-like projection into the cervix, which, as the author believes, effects its dilatation with far greater mechanical advantage than even the natural pouch of liquor amnii. By experiments on models made to represent the vagina and cervix, he has satisfied himself that this projection of a finger-like pouch into the cervix does actually take place, even when the cervix forms at first a prominence, and the os is undilated. He therefore considers that his double dilating bag is far superior to the dilating bag of Gariel, or the colpeurynter of Braun, which merely distends the vagina, and often brings on active labor pains only after a long interval. It is also far easier of application than intra-uterine dilators, which require to be frequently reinserted, and it can be used even when there is, at the commencement, no dilatation whatever of the os. The methods of puncturing the membranes, of dilating the os with tents, or of introducing an elastic bougie, the author considers to be exploded as a means of inducing labor.

A case is related in which the method was successfully applied. The patient, aged forty-seven, was reduced to the last extremity by uncontrollable vomiting, and induction of labor was commenced about three weeks before full time. The os was extremely high up, hard, rigid, and nodular, and would not admit even the point of the finger. Pains were brought on soon after the introduction of the bag, the os was dilated to the size of a franc after five hours, and labor was completed after about twenty-four hours, although on two occasions the bags were removed for some hours, during which time pains entirely ceased, and the os became again contracted. This cessation of pain appeared to be due to the exhausted state of the patient.

The application of the double dilating bag is not confined to the induction of labor, but, in the author's practice, it supersedes all other means in many cases. Thus it is used instead of tents to dilate the cervix of the unimpregnated uterus, in order to explore its cavity, to restrain hæmorrhage, to remove polypi, or to make intra-uterine applications. In cases of placenta prævia it effects a complete dilatation of the cervix without allowing the slightest hæmorrhage to continue, an effect which the author has observed in a dozen cases. When the insertion completely covers the os, he pierces the placenta through the centre, and finds that the bag insinuates itself into this opening with an equally good result. But it is in post-partum hæmorrhage that the results are most striking. The uterus is first emptied of all clots, and the bags are then introduced and dilated with water. The thin bag then insinuates itself into the uterus, and completely fills it, compressing the open mouths of all the bleeding vessels. When the uterus begins to contract, it may be allowed to expel the water, the open mouth of the tube being kept at a high level. There is then perfect security that no cavity is formed into which hæmorrhage could take place. The author has saved by this method two patients who would otherwise inevitably have perished, all other means having been used in vain.

***Spondylizema**, or, Vertebral Sinking produced by Pott's Disease, as a new cause of pelvic alterations, compared with Spondylolisthesis, or Vertebral Gliding.* DE PAUL. (*L' Union Méd.*, January 25, 1877, No. 10).

The following are the author's conclusions:

1. Diseases of the lumbar and sacral vertebræ may induce two essentially distinct deformities, according as the caries affect the *body* or *arch* of the vertebra.

2. In the first, when the *body* is destroyed, which is the real support of the column, the latter sinks upon itself and becomes inclined. This inclination may produce such an extensive forward projection that it *covers* the superior strait and interferes with fœtal engagement in the canal. This lesion we have concluded to term *spondylizema*—vertebral sinking.

3. In the second deformity, when the vertebral arch is altered, which, by means of its apophyses and articular surfaces, maintains in position the column with the ligaments and muscles of this region, the spine, obeying the laws of gravity, *glides* forward into the pelvic cavity, and thus *obstructs*. To this lesion Kilian gave the name of *spondylolisthesis*—vertebral sliding.

4. In *spondylizema* the sacro-pubic diameter preserves its normal length. It may be even increased by reason of the diminution of the height of the base of the sacrum. But the *strait* to be passed by the fœtal head is pushed up higher. It is represented by a line which extends from the pubis to the body of one of the dorsal or lumbar vertebræ, brought nearer to the pubis by the forward inclination of the vertebral column.

5. In *spondylolisthesis* the sacro-pubic diameter is shortened by the interposition of the bodies of the lumbar vertebræ between the pubis and sacrum, in consequence of their gliding into the canal in advance of the sacrum.

6. The consequences of this last form of lesion are, as regards the pelvic cavity, more grave than in the former case. The two, when combined, may, as facts have abundantly demonstrated, lead to the most painful necessities of all operative midwifery.

II. PRACTICAL MEDICINE.

Clinical Cases of Hydroadipsia. With some facts concerning the Water Supply of living Bodies. MCELROY. (*The Cincinnati Lancet and Observer*, January, 1877.)

In the Zanesville Glass Factory, the blowers are obliged to stand between two furnaces,—a melting and a heating furnace. In the warmest weather they drink from 50 to 60 pints of ice water, and some of them in addition, 2 to 3 pints of beer, in nine hours. The amount excreted by the kidneys is but little increased, nor the color of urine perceptibly changed by this enormous consumption of water. The excretions from the bowels do not seem to be increased by the use of such large quantities of drink. When not working, about 3 or 4 pints of water in 24 hours will suffice

them. The amount of food consumed by them seems not augmented by labor. Most of the water drunk is eliminated by the skin; very little by the lungs, and no considerable portion by the kidneys. The men are very light in weight, hardly averaging 150 lbs. In three days they drink water equal in weight to that of their bodies. When the men lose the sense of thirst—Hydroadipsia—they cannot continue their work; but to recall the sense of thirst, salt is thrown into their mouths, which they chew and swallow, and soon the sense of thirst is restored. Dr. M. has reported quite a number of cases of Hydroadipsia; one occurring in a lady 50 years of age, who was treated by two physicians for softening of the brain. On examination of patient, the author says: Found her with continuous pain in the side, sick at the stomach most of the time, and no appetite.

Food distressed her after eating. Never drinks any water; but drinks a little tea between meals. Has had no inclination to drink water for a number of years. Passes a very little high-colored urine twice a day. Her complexion is pale; does not sleep at nights. Pulse 108, weak and thready. Temperature 100°. Patient was at once given large quantities of fluids; milk and hot water, palatably seasoned, were prescribed for her, together with such medicines as would aid her in sleeping, and move the bowels Patient soon convalesced, and finally recovered her usual health.

Loss of the sense of thirst, and the abstinence from the necessary amount of water that the system required, was sufficient cause of her embarrassed health. W. F. L.

Treatment of the Paralytic Affections of Diphtheria. CORMACK. (*Edinburgh Med. Jour.*, July, 1876.)

In every eleven cases of diphtheria, one is characterized by paralysis. The paralysis is usually first manifested in the inferior extremities; the superior ones, however, soon become involved. The peculiar characteristic is paralysis of the veil of the palate, which occurs as a sequel to diphtheria, but to no other disease. Very frequently the veil of the palate is alone affected, other portions of the body escaping. Atrophy in convalescent diphtheritic patients may be due to a protracted disuse of muscles, which, very frequently results in paralysis; where this is true, if prompt and early treatment is instituted, permanent paralysis may be prevented. In convalescence from diphtheria, the dominant condition is asthenia, and to this and anæmia are the paralytic affections attributable, hence the treatment indicated is such as tonics, combined with such local treatment as will improve the nutrition of the muscles involved in the paralysis.

W. F. L.

Metastases of a simple Bronchocele. COHNHEIM. (*Centralbl. f. Chir.*, 1877, p. 119.)

At the autopsy of a woman, aged 35 years, who died of decubitus and diphtheria of the colon, a great number of small tumors were found in the lungs and bronchial glands, in the second, third, and fourth lumbar

vertebræ and in the right femur. The structure of all these growths was alike and presented the typic picture of the texture of the thyroid gland. This gland was somewhat enlarged, and its left lobe contained two lumps of a soft gelatinous consistence, one of which sent a small nodule into the lumen of a larger branch of the thyroid vein.

III. Surgery.

A New Rectal Dilator and Explorer. Ph. S. Wales. (New York Medical Rec., No. 329).

The treatment of stricture of the rectum is always tedious, painful and difficult, and in an increasing proportion to its distance from the anus. The malignant forms are uniformly fatal, and it is only in the non-malignant varieties that a successful issue may be secured by surgical measures. The ordinary appliances employed in the latter class of cases have not been altogether satisfactory, particularly in those instances in which the obstruction is seated high up in the bowel, and beyond the reach of the finger. Having recently had two cases of this latter sort, in one of which particularly the practical difficulties culminated from the height of the stricture, Dr. W. used a new kind of dilator with the most gratifying results. These dilators were manufactured out of pure rubber, with a canal running the whole length, and gradually increasing in size by an eighth, from a quarter of an inch to an inch in diameter. Each dilator is filled with a green sheath of corresponding dimensions, and if connected with a syringe or Politzer's air-bag, the sheath can be distended with water or inflated with air. The points of the dilators may terminate spherically or conically, the latter form, on the whole, being more easily introduced. The whole length of the sheath, both inside or outside the bowel, or any portion of it, may be filled with water; in the latter case a thread is to be twisted around the dilator at any point where it may be desirable to limit the distention.

"The method of introducing the dilator is simple. I prefer placing the patient, reclining on his left side, upon an ordinary operating-table, the thighs flexed and the buttocks just overhanging the lower edge. The operator may then comfortably seat himself during his manipulations—an advantage of no ordinary character, if they are to be at all prolonged. The smallest-sized instrument is smeared with grease, and its point inserted into the anus, and gently pushed onward in the following manner. The right hand grasps the dilator close to the anus, and the whole perineum is to be pressed upwards, which will advance the point of the instrument; the left hand now steadies it, while the right is slid downwards for a lower hold, the perineum of course settles with it; the dilator is again pushed forward in the same manner until the obstruction is passed. I have occasionally found that this may be greatly facilitated by sinking the fingers of the left hand deep into the left iliac region, and drawing

upwards, as though an effort was being made, so to speak, to stretch out the sigmoid flexure, while pressure is maintained at the same time upon the dilator in the manner described. Another practical point of prime importance is to employ an abundant stream of water, projecting it through the conduit of the instrument as warm as can be comfortably borne, whenever its point is arrested from any cause. The water flowing from the distal aperture will distend the bowel, efface its folds, and break down any hardened fæces that may exist, obstructing the ascent of the dilator. While the operator is engaged with the dilator, an assistant may manage the syringe and throw in the water in such quantities as may be needed. It must be borne in mind, however, that no great volume should be used at once, otherwise the bowel will be excited to energetic contraction, and compel the dilator to be withdrawn before it has been properly lodged. In preliminary trials, the dilator may be permitted to remain two or three minutes, and afterwards, when greater tolerance is established, a longer stay may be allowed. I rarely exceed half an hour in any case, even when the patient makes no complaint of irritation or pain. After several introductions of one size of the dilators, perhaps seven or eight, the next largest may be taken, and so on until the stricture has been sufficiently expanded. The application of the instrument may be repeated twice or thrice a week, according to circumstances, such as the irritability of the rectum, temperament of the individual, and intercurrent attacks of diarrhœa, or other trouble. Twice a week, in my experience, suffices in most cases of rectal catheterism. A fortunate issue, if attainable, can only be brought about by patient and prolonged treatment. Rudeness or violence, inflicted with a view of hastening the case, can effect nothing but harm, and may jeopardize the life of the patient. If the instruments be hastily thrust in, the bowels may be perforated, especially in those cases in which inflammatory softening or ulceration exists; or, if they be too large, the rectal mucous membrane may be ruptured, giving rise to smart hemorrhage, as happened in one of my early cases; or the entire wall of the bowel may be ruptured into the peritoneum—an accident that is pretty sure to be followed by peritonitis, with all of its attendant dangers.

"These funest sequences are infinitely less liable to follow the use of pure india-rubber dilators than that of any other sort; for certainly, *a priori*, nothing could furnish a milder, more equable, and less dangerous force than these, and experience sustains this view.

"I have also been using the dilators in applying ointments, variously medicated with astringent and anodyne substances, in cases of relaxation of the intestinal mucous membrane, prolapse, hemorrhoidal tumors, and other morbid rectal conditions. A slight modification converts the dilator into an irrigator; that is, by having two parallel conduits in it—one for the fluid to pass in, and the other for it to escape externally. The bowel may be thus irrigated quite high up, for I have frequently inserted the instrument twenty-eight inches into the colon. In one case the patient passed every morning one or two large, yeasty stools, mixed with mucus,

and followed by much mental depression. A cure was obtained by the injection, three times a week, of a solution of carbolic acid, after internal medication had failed. Much advantage may be realized from the use of warm irrigation in various diseases of the contiguous pelvic and abdominal organs—as cystitis, prostatitis, suppression of urine, and intussusception. The half-inch dilator will furnish a ready tube for introducing alimentary substances into the stomach or rectum.

"A reliable explorer for diagnosing intestinal diseases may be prepared in the following manner: take a dilator, say one-half an inch in diameter, and over its distal extremity draw a hood of thin india rubber two inches long, securing its margin with a fine silken thread. If the rubber is not at hand, a piece of moistened bladder or gold beater's-skin will answer very well. The instrument thus made ready should be well coated with a stiff grease, like simple cerate, or zinc ointment, which works better than sweet oil in facilitating its gliding over the mucous membrane, and introduced in the manner described for the dilator, until its point is lodged far above in the descending colon. A syringe is attached to the instrument, and its point expanded into the form of a ball an inch or more in diameter. Gentle traction is now to be made, which will cause the ball filled with water to move slowly down the bowel. If no obstacle is present, the ball will soon emerge from the anus; on the contrary, any obstruction will arrest it above. It may be that spasmodic contraction will have a like effect, but this can be easily distinguished from permanent stricture by keeping up the traction a few moments, until the muscular force of the intestinal walls is exhausted, when the ball will again slip along. In cases of organic narrowing, its degree may be determined approximately by maintaining the traction on the explorer, while the water is permitted to flow out in small quantities at a time, until the size of the ball is sufficiently reduced to slip past the constriction; the diameter of the ball, which represents that of the stricture, may be now ascertained by mere inspection.

Shortening of the Lower Limb after Fracture of the Femur. WRIGHT. (*Archives of Clinical Surgery*, February, 1877).

A very rational way of explaining the reason of shortening of the lower limb after fracture, is by making comparative measurements of lower limbs that never have been broken. Dr. W. has accomplished this, by a careful measurement of the lower limbs of sixty cases; giving the age, occupation, and nativity of each. The maximum disparity in length, was one and three-eighths of an inch; the minimum, one-eighth of an inch. All these measurements were made in the usual way, from the most prominent point of the anterior superior spine of the ileum, to the lower extremity of the internal malleolus. After a careful, and lengthy investigation of lower limb shortening, the author arrives at the following conclusions:

"First. The lower limbs of the same person are not always of the same length.

Secondly. The greater number of lower limbs, comparing the limbs of the same person, show a difference in length.

Thirdly. The normal lower limbs that I have measured, give the fol lowing result: The left lower limb is oftener longer than the right, and the right lower limb is nearly as often longer than the left.

Fourthly. About one person out of every five has lower limbs that measure the same length.

Fifthly. I have measured the lower limbs of cadavers and of skeletons, the soft parts having been removed by dissection. These measurements confirm the above results."

The cause of normal lower limb shortening, he says, may be deficient development of the epiphyseal cartilage, that is, one of the cartilages might continue to grow, and ossify after the other had completed its developments; or "a variation in the length and obliquity of the neck of the femur, incident to the age of the patient, may not occur during the same time, and with equal pace in the two femoral necks." A mistake might be easily made in a case, where there was equal length in the normal lower limbs, by the superior spines of the ileum occupying comparatively different positions; one spine projecting a little further down, or a little further up, than its fellow; or one of the malleoli might extend downwards a little further than the one of the opposite side. The author believes that it is impossible to say just how much a broken femur had shortened a limb; the only correct and reliable way would be, to measure the limb before and after the injury, knowing that such a marked difference exists in the length of normal limbs, it would seem unscientific, and even perilous to apply extension and counter extension so forcibly, as to make an injured limb, where there is considerable shortening, as long as the other. The author says, that in some cases of fracture of the femur, he has easily made the broken limb as long as the other, and supposed it was chiefly due to skillful treatment; while in other cases, equal, and even more care would be exercised, yet the patient would get up with an inch shortening. W. F. L.

A New and Simple Operation for the Removal of Laryngeal Polypi. PROF. VOLTOLINI. (*Monatsschrift f. Ohrenheilk. and Halskrankh*, 1877. No. 2.)

This new operation which scarcely can be honored with this name, is nothing more or less than the removal of soft polypi in the larynx by a swabbing method. The only instrument required is a piece of soft sponge securely fastened to flexible wire of German silver. The sponge must not be over one centimetre broad; else it cannot be introduced into the larynx. Where the presence of a soft or pendulus polypus has been ascertained by the larynx mirror, the growth is removed without the aid of the mirror, in this manner:

"The patient pulls out his tongue, and the surgeon depressing forcibly the root of the latter with a spatula brings the epiglottis in view. As soon as the epiglottis can be seen, the sponge (which was previously softened in warm water) is passed into the throat, until it reaches the posterior

surface of the epiglottis on which it is made to glide down into the larynx. As soon as the sponge has entered the larynx, it is grasped firmly by a spasmodic closure of the latter; and the whole knack of my method consists in this, *that while the larynx is thus closed, no attempt is made at pushing the sponge further down*; *it should be left in its position until the larynx opens again*, which it must do very soon, because the patient wants to breathe. At the instant when this occurs *i. e.* when the glottis is opened, the sponge is passed down through it. This act is very easy for the patient, as it were, inhales the sponge. Once under the glottis the sponge is moved up and down to swab the vocal cords, and to tear off the polypous growth. If the polypus sits on the upper surface of the vocal cords, it is of course unnecessary for the sponge to get through the glottis; it is then sufficient that the probang has entered the larynx and is turned around in it while the glottis is contracted, for just then the sponge is sure not to miss the proliferous growth." Six cases are reported in the above article that have been treated by this method. V. thinks his operation is applicable to the soft polypi only; but for these which constitute the majority of growths in the larynx, it will supersede all other operations, because it can be performed at once without any preliminary preparations and without the aid of the laryngoscope; because every practitioner can do it by ordinary daylight, and because it will obviate the necessity of tracheotomy or laryngotomy in cases of imminent suffocation due to so excessive a proliferation of soft polypi that they fill the entire lumen of the larynx.

IV. THERAPEUTICS.

QUININE: *Case of Idiosyncrasy in Regard to its Action.* R. M. DENIG. (*Ohio Md. Recorder*, 1877.)

The full notes of Dr. Denig's case are herewith submitted because of the almost universal use of this drug by the readers of the JOURNAL AND EXAMINER. The Doctor reports as follows:

In the summer of 1862 was called to see a boy about seven years of age. From his symptoms I supposed he was suffering from a slight attack of intermittent fever, and prescribed quinine. On seeing him again, in the evening of the same day, I was somewhat surprised to find his whole body covered with an apparently scarlatinous eruption, accompanied with intense itching, some fever and general restlessness. Supposing now that I had a case of scarlet fever to deal with instead of intermittent, the quinine was suspended, and other treatment resorted to. The next day the rash disappeared and the boy recovered without much medication.

Two years subsequently he had a similar attack, which, in my mind, indicated the use of quinine, and without suspecting its agency in produc-

ing the symptoms referred to, we again administered it. The effects which followed were precisely similar to the former occasion, only somewhat intensified.

In twenty minutes after taking the quinine he became red from head to foot, with intense itching over the whole surface; his agitation was great, face swollen, eyes red and suffused, breathing difficult, presenting, altogether, the appearance of extreme suffering.

I now became satisfied he had some idiosyncrasy or peculiarity which induced these attacks of urticaria when quinine was administered, and so stated, warning his parents against giving it or allowing any other person to do so, under any circumstances.

In 1864, being absent from the city, this lad was again taken very sick.

The gentleman in whose care I had left my business called to see him.

The mother of the boy, fearing the doctor might possibly prescribe quinine, explained to him its peculiar effects, and stated that I had cautioned them against its use.

The incredulous smile of the doctor led her to assure him that she had no foolish prejudices against the use of the medicine in question; that they always purchased it by the ounce and were accustomed to use it freely, with and without medical advice.

He made no reply, but wrote his prescription. In a few hours he was again summoned to the house and found the boy in a most alarming condition, all the symptoms we have enumerated being well pronounced. The doctor, on seeing the state of things, was seriously alarmed for the boy.

He was assured, however, by the parents, that the worst was over. On my return home he gave me an account of the case, stating how much he had been frightened, adding, that in all his long experience he had never witnessed similar symptoms, nor apparently greater suffering, finishing by requesting me to report the case.

A few years later this now young man, after having visited Rome, was attacked, on reaching Paris, with what is called Roman Fever. The medical gentleman to whom he applied again prescribed quinine, which he took without suspecting its presence. He was not long, however, in realizing, from the effects produced, that the prescription contained his now too well recognized foe.

Some six or eight years again elapsed, when he had an attack of fever of well marked malarial type, and of more than usual severity.

Knowing but too well his inability to take the appropriate remedy, I determined on trying salicin; but owing to some unaccountable misunderstanding he again took five grains of quinine. This was taken during the period of intermission, when he was feeling quite comfortable.

In ten minutes after swallowing it he felt the effects in every fibre of his body; his face became red, his lips and eyelids swollen, and whole features bloated. The effect upon the respiratory passages which soon followed, resembled a violent attack of asthma or hay fever; the posterior nares and trachea seemed swollen to an extent as almost to preclude the acces of air,

the threatened asphyxia compelling him to breath with the mouth wide open and *alae nasi* unduly distended.

No language could describe the apparent anguish and distress present; every muscle which could exert influence on the respiratory function was brought into violent requisition; his agitation was extreme, compelling him to keep in motion; his bloodshot, red eyes and swollen features giving him the most frightful appearance.

After some hours of suffering such as we have endeavored to describe, the secretion of tears became abundant, a profuse discharge from the nostrils occurred, and the symptoms began to subside.

He did not, however, recover his wonted appearance for some days, the itching still persisting to a great extent, accompanied by a weary and exhausted feeling.

The singularity of this case made a strong impression on my mind, as it seems to have done on that of my confrere. I had never witnessed before like results following the administration of quinine, nor seen any case of the kind reported.

No allusion is made in the works on Materia Medica which I have examined to these peculiar effects.

In the October number, however, of the *Annals of Hygiene*, published in Paris, I do find a case reported which is, in every respect, the exact fac simile of mine.

It was meeting with this reported case—the exact resemblance of the two cases—which recalled my attention to the matter, and has induced me to give both the history of my own case and a translation of the case referred to, thinking the matter may not be devoid of interest to at least some members of this Society.

Dr. Adolph Dumas, Adjunct Surgeon of the Hospital de Cetti, says: A female, a distant relation of mine, has for some time presented a singular special sensibility to the action of quinine. Five times in a year, at intervals of several months, she has experienced these symptoms which, on the last occasion, have assumed alarming proportions. The following details of the case I have collected from observation made at the bedside of the patient.

In consequence of a facial neuralgia to which this woman is subject, I ordered her, on the 20th of July, 7 P. M., to take two pills containing five grains of quinine.

Owing to an impression which she had received from former experience, that the effects were less unpleasant when not taken on an empty stomach, she was directed to take a slight repast before taking the medicine.

Ten minutes had scarcely elapsed after its ingestion, when she was seized with extreme restlessness and agitation, flushing of the face, tension of the eyelids, and a prickling sensation around the mouth. In ten minutes there was vomiting of part of the porridge she had taken, and judging from its bitterness a portion of the quinine, accompanied with slight oppression of breathing.

By degrees all these symptoms were aggravated; oppression quite strong; respiration hurried; vivid injection of the face and eyelids, which became distended and half closed; eyes red and watery; intense itching of the whole body, especially where there was any constriction by the clothing, which compelled her to undress and go to bed.

Nine o'clock.—In bed itching still more intolerable; skin over the whole surface red, especially upon the trunk, nates, thighs and calves of the legs.

I can distinguish, in some places, the elevated urticarious eruption; but generally there is redness without elevation, resembling the scarlatinous eruption; in some places, however, there are real papules which render the part rough to the touch. These latter progressively augmented. The patient scratches herself furiously, excoriating the body in several places; the traces of the nails being at first white, but soon becoming red and remaining so; the agitation is extreme, not a part of her person being free from pungent itching. She suffers much in the palms of the hand and between the fingers and toes.

The itching is much increased by the least change of posture.

The oppression becomes greater and greater; respiration panting and sibilant, which can be heard at a distance, and 72 per minute; pulse 104; temperature 101.8; has a little dry cough. She expresses, at times, a feeling of impending suffocation, rejecting all covering, although she is not hot. There are moments when her agony is almost unendurable, and at no time does it entirely relent.

A little later the secretion of tears is augmented, and abundant discharge flows from the nostrils, with frequent paroxysms of sneezing.

Eleven o'clock.—Seven hours after taking the quinine the acute suffering commences to diminish, the itching still remaining. I should add that as soon the symptoms here described were fully developed, the neuralgic pains ceased to a great extent until 11 o'clock, the time at which the habitual exacerbation occurred.

Twelve o'clock.—The coryza, itching, and oppression diminishing in intensity, and the patient commenced to have some moments of repose, interrupted by an occasional exacerbation, especially of the oppressive breathing.

The patient seemed much exhausted and kept her bed for several days, during which her skin, usually soft and delicate, remained rough and furfuraceous.

This was the fourth time, as I observed in the commencement, that I had witnessed a similar effect produced on this young woman from the administration of quinine.

In the first instance the dose being very small (about two grains), the symptoms, although of the same character, were not so violent, and lasted only about an hour. Being quite unprepared for such a result, I asked myself whether the quinine could be the cause, and as she was quite well the next day, another pill containing the same amount was given, with precisely the same result.

As the patient charged her symptoms to the drug administered, she was unwilling to again resort to its use; to test how much might be due to imagination, I had it administered without her knowledge; the effects were soon obvious. Three times the amount taken was only two grains, and on the fourth and last occasion only five grains. It is obvious that the effects produced by the quinine were in proportion to the amount prescribed, as in the last instance they were truly alarming and distressing, although, in this case, a portion of the medicine had been ejected by vomiting.

What would the result have been had a much larger dose been administered? It is probable, however, that the dose here is only of secondary importance, and that the effects are due to the peculiar idiosyncrasy of the individual almost exclusively. Seven or eight years ago this idiosyncrasy did not exist at all. In a severe attack of fever which she experienced at that period, eight grammes of the sulphate of quinine were given in divided doses without producing anything but the ordinary effects of the drug.

The accession of the phenomena above described has always been the same, appearing first on the face, lips and eyes; countenance bloated, eyelids swollen, and eyes suffused; following in rapid succession is the intolerable itching of the surface, eruption, and general feeling of tension; the mucous membrane soon participating in the disturbance, producing rapid and oppressed breathing—a real attack of asthma. A little later a discharge takes place from the nostrils, abundant tears flow from the eyes, the breathing improves, the nervous agitation is less violent, and the patient, exhausted and weak, gradually regains her usual health.

On the Use of Ergot in the Treatment of Surpura. BUCKLEY. (*The Practitioner*, Nov., 1876.)

Purpura can be successfully treated by using fluid extract of ergot hypodermically, or in the ordinary way. Dr. B. mentions several cases cured by injecting ten drops of the fluid extract of ergot daily for four days; no longer time being necessary. If ergot is given to purpuric patients by the stomach, the same results are obtained, save in the matter of time, which is considerably longer. The author discourages the old method of treatment with turpentine, maintaining that it is unreliable, and with him it very often fails. W. F. L.

ANNOUNCEMENTS FOR THE MONTH.

MONDAYS. SOCIETIES.
Mondays, May 7 and 21.—Chicago Medical Society. Regular meetings.
Mondays, May 14 and 28.—Chicago Soc. of Phys. and Surgeons. Regular meetings.
CLINICS. *Every Monday.*
At Eye and Ear Infirmary, 2 P. M.—Prof. Holmes.
At Central Dispensary (Wood and Harrison sts).—2 P. M. *Gynecological*, Dr. Adolphus; 3 P. M. *Diseases of Children* Dr. R. S. Hall.
At Mercy Hospital—2½ P. M., *Surgical*, Prof. Andrews.
At Rush College—2¼ P. M., *Medical*, Dr. Bridge.
LECTURES. *Every Monday.*
At Rush College (Harrison and Wood sts.)—9 to 1 o'clock, Drs. Wadsworth, Jackson, Danforth and Knox. At Chicago College—8 to 11, Profs. Hatfield, Jewell, and Curtis; 3½, Quine.
At Woman's College—3 to 5, Profs. Paoli and Byford.

TUESDAYS. SOCIETIES.
Tuesday, May 8.—Academy of Sciences. Regular meeting at 8 P. M. (263 Wabash av.)
CLINICS. *Every Tuesday.*
At Eye and Ear Infirmary—2 P. M., Prof. Jones.
At County Hospital—2 P. M., *Medical*, Prof. Lyman. At 3 P. M., *Surgical*, Prof. Bogue.
At Mercy Hospital, 2 P. M., *Medical*, Prof. Hollister.
LECTURES. *Every Tuesday.*
At Rush College—9 to 1, Drs. Owens, Bridge, Strong and Case. At Chicago College—9 to 11, Profs. Jewell and Byford.
At Woman's College—9 to 11, Profs. Hayes and Earle.

WEDNESDAY. CLINICS. *Every Wednesday.*
At County Hospital—2 P. M., *Ophthalmological*, Dr. Montgomery; 3 P. M., *Gynecological*, Prof. Fitch.
At Mercy Hospital—2½ P. M., *Ophthalmological*, Prof. Jones.
At Central Dispensary—2 P. M., *Surgery*, Dr. Loomis; *Diseases of Chest*, Dr. Ingals; 3, *Gynecological*, Prof. Etheridge.
LECTURES. *Every Wednesday.*
At Rush College—9 to 1, Drs. Wadsworth, Ingals and Sawyer. At Chicago College—9 to 11, Profs. Hyde and Steele; 3½, Jones.
At Woman's College—9 to 11, Prof. Marguerat and Dr. Hale.

THURSDAYS. CLINICS *Every Thursday.*
At Eye and Ear Infirmary—2 P. M., Prof. Hotz.
At Mercy Hospital—2½ P. M., *Medical*, Prof. Davis.
At Rush College—2 P. M., *Medical*, Prof. Ross; 3 P. M., *Diseases of the Nervous System*, Prof. Lyman.
At Central Dispensary—2 P. M., *Surgical*, Dr. Graham.
LECTURES. *Every Thursday.*
At Rush College—9 to 1, Drs. Hayes, Bridge, Strong and Case. At Chicago College—9 to 11, Prof. Quine and Steele; 3½, Byford and Roler.
At Woman's College—9 to 11, Profs. Thompson and Graham.

FRIDAYS. SOCIETIES.
Friday, May 11.—State Microscopical Society of Illinois. Regular meeting, 8 P. M.
CLINICS. *Every Friday.*
At County Hospital—2 P. M., *Medical*, Prof. Lyman; 3 P. M., *Surgical*, Prof. Bogue.
At Mercy Hospital—2½ P. M., *Medical*, Prof. Nelson.
At Central Dispensary—2 P. M., *Diseases of Chest*, Dr. Harroun; 3 P. M., *Dermatological*, Dr. Maynard.
LECTURES. *Every Friday.*
At Rush College—9 to 1, Drs. Wadsworth, Jackson, Strong and Knox. At Chicago College—8 to 11, Profs. Jones, Hyde, and Curtis; 3½, Hatfield.
At Woman's College—9 to 11, Profs. Bartlett and Blake.

SATURDAYS. CLINICS. *Every Saturday.*
At Chicago College—1½ P. M., *Surgical*, Prof. Andrews or Isham; *Gynecological*, Prof. Nelson; 2¼ P. M., *Medical*, Prof. Johnson.
At Rush College—2 P. M., *Surgicl*, Prof. Gunn.
LECTURES. *Every Saturday.*
At Rush College—9 to 1, Drs. Owens, Bridge, Sawyer and Danforth. At Chicago College—8 to 11, Profs. Merriman, Quine and Byford; 3½, Hyde.
At Woman's College—9 to 11, Dr. Engert.

At all the above named Clinics visiting regular practitioners are, we believe, admitted.

At the South Side Dispensary (Chicago College) there are six daily special Clinics, for sections of the classes of the Chicago College.

THE

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VOL. XXXV.—JUNE, 1877.—No. 6.

Original Communications.

A SIMPLE MEANS OF SECURING THE BEST POSTURE FOR THE LEG IN CASE OF COMPOUND FRACTURE.

BY DR. H. BANGA, Chicago.

I do not intend, at this time, to discuss the advantages which the plaster of Paris bandage affords in the treatment of compound fracture of the leg. Such a discussion would be as valueless and absurd as the setting forth of the antipyretic power of quinine and its great efficacy in intermittent fever. Since the ingenious adaptation of the plaster of Paris bandage, made during the Crimean campaign, by the great Russian surgeon, Pirogoff, and its subsequent popularization in later wars, it has been almost generally used by surgeons throughout the world, both in civil and military practice. The ease with which it can be applied and the rapidity with which it becomes solid, when it properly and perfectly encases the limb, are advantages which render it so superior to all other immovable

apparatus, (especially to starch and silica,) that, if the surgeon has the choice, he should never hesitate to employ the plaster.

He who understands the process of healing in a compound fracture, doubtless knows that, by encasing the leg and opening the bandage in order to expose the wound, the work is not completed, but another, often very tedious, task remains, namely: placing the limb in the most comfortable position.

In this paper, I desire to place before the reader the advantages of an apparatus I have found most suitable for this purpose, but will first offer some general suggestions regarding the posture of the leg and the methods heretofore used.

What is necessary to secure a good posture for the fractured encased leg? The posture is good,

1st, *When the broken bones are kept permanently in proper apposition.* It may seem useless to lay stress on this point, when the leg is once properly put up in the plaster bandage. But it must be borne in mind, that, when the swelling of the limb subsides after a few days, an empty space is formed between the skin and the bandage, thus allowing motion of the ends of the broken bones. By experimenting upon a dead body, lying level upon a table, with a leg fractured, it may be shown that, if the shoulders, or even the head, are raised slightly, the ends of the broken bone will always be displaced, providing they were properly set before the experiment. This difficulty can best be avoided with a patient, *by giving the leg an elevated position.*

2d, *When the circulation is not obstructed,* which is also best assured by elevating the leg.

3d, *When the surgeon can dress the wound in the most convenient manner.* There should be a free space all around the leg, so that the surgeon can examine and even touch, if he deems it necessary, every part, especially the wound, the toes, and the popliteal region, and he should be able to do so without disturbing the patient by raising the leg, etc. This will also enable him to regulate the after-treatment of the wound, as he judges most proper, viz., by the use of ice-bladders, poultices, prolonged irrigation, or, (best of all,) Lister's antiseptic dressing.

4th, *When the attendants are able to keep clean the bed; to apply the bed-pan, etc., without disturbing the patient's comfort.*

5th, *When the patient finds the dressing comfortable.* There is no doubt that in fulfilling the above requirements, there will be the least suffering for the patient. The beginner should bear in mind, that, ordinarily, the patient himself is the best judge of the posture and bandage. If he is comfortable, they may be considered good, and the reverse, if there is any part of which he complains. The surgeon should not hesitate to carefully examine the bed, to lower or to raise the leg, the shoulders, the head, or to cut open or to remove the whole bandage, however faultless it may appear, if the patient complains of any pressure, due care, of course, being taken to determine whether his complaints are without foundation.

Notwithstanding the apparent simplicity of these suggestions, their execution will be found difficult in very many cases, as is proved by the almost numberless apparatuses which have been devised since Jean Louis Petit published the description of his famous fracture-box, and which have all been used in connection with the plaster of Paris bandage. I pass them by, however, since for my purpose it will suffice to show that even suspension, usually considered most suitable, has so many disadvantages, that, if there is a better method claimed, it can not fail receiving *a priori* the attention of the practitioner.

Suspension is accomplished in various ways: by supporting the encased leg in a linen hammock, or wire-splint, attached to a cradle by india rubber tubings, or by suspending the limb from a kind of gallows crossing over the bed by means of cords and iron hooks, fastened at different points in the bandage. Whatever method be adopted, it requires a somewhat complicated apparatus, which doubtless will be found in the well supplied splint-room of a hospital, but which is rarely obtainable on the first day, and often not at all in the country or in an ambulance. Furthermore, the hammocks allow the crest of the leg only to be inspected, and for the dressing of the wound, its removal becomes necessary, so that, if there is a wound at

the calf of the leg with progressive suppuration, both surgeon and patient may sometimes dread the time for dressing.

I do not propose to enumerate all the inconveniences experienced in suspending the encased leg, as some of these are referred to elsewhere, but I will at once describe the method which I claim, from experience, to be most suitable for the cases described.

The plaster of Paris bandage will become dry some two hours after its application, and the wound may then be exposed by means of a valvular opening, cut in the bandage. For our apparatus we merely require,

1st, A well planed board, from eight to ten inches in width, and one-fourth inch in thickness, and of about equal length with the leg from the popliteal region to the heel.

2d, Some wooden blocks, each about four inches long, one inch wide, and of different thickness.

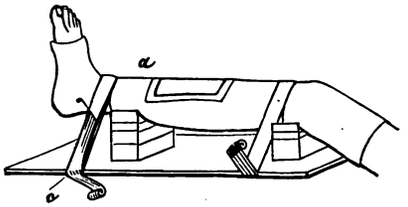
3d, Some small wooden wedges.

4th, Some rollers prepared with plaster of Paris, some plaster in powder, some water, and a small vessel in which to mix the plaster and water to the consistency of cream. All these things being in readiness, the apparatus is constructed in the following manner:

The leg is gently raised on a level, about one foot above the bed, by one or two assistants, while the surgeon places the board lengthwise on the bed beneath the leg. The surgeon then piles up the blocks evenly across the board, at two places; viz., beneath the ankle and under the popliteal region. Two pillars, each from six to eight inches high, are thus formed. The leg should then be lowered to rest on these pillars, and to prevent rolling to the sides, the above-mentioned wedges are used. (Fig. 1.) This done, the position of the limb must be carefully examined, for this is to be its final posture. Therefore, the patient should be asked, as to how he feels. Perhaps he wishes the foot slightly raised, which can be done either by placing another small block beneath the ankle, or by taking out a block from under the knee, or by gently moving either pillar upwards or downwards, as may be required to raise or lower the corresponding part of the leg. The upper portion of the bandage around the thigh, should be especially exam-

ined, to ascertain if there be any pressure or constriction, which often happens if the knee is bent too much or too little. If overlooked, such pressure will afterwards cause much trouble, often inducing the patient to crumble away the bandage. It is evident, that after having dressed some cases in the manner here described, the surgeon will soon be able to judge at once of the proper height of the pillars, if only he bears in

FIG. 1.

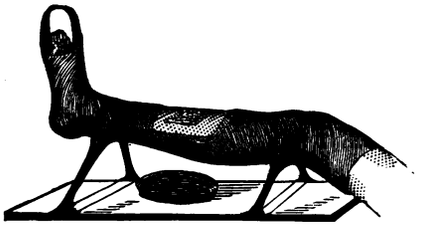


mind that the best posture requires the foot to be the highest part, while the knee-joint may be a little lower and somewhat flexed. He will accomplish, in a short time, what it has taken so many words to describe.

If the position is satisfactory, both to the surgeon and the patient, it is secured as follows: With a well-wetted plaster roller three turns are applied around the plaster bandage near the ankle, closely above or beneath the lower pillar. (Fig. 1 *a*.) On reaching the crest of the bandage after the third turn, the roller is passed obliquely downwards to the edge of the board, (Fig. 1 from *a* to *c*) and underneath the latter, to the opposite edge, from which it is carried upwards back to the crest of the bandage (at *a*). While the roller is passed underneath the board, this with the leg, must, by an assistant, be raised about one inch from the bed. The roller, thus applied, forms a kind of triangle with its base across the board, while the sides reach obliquely down from the crest of the bandages to the edges of the board. This triangular band must be repeated twice more, so that each of its sides contains three layers of roller bandage, and care must be taken to tighten well the roller while going around. Another well-wetted plaster roller is now wound spirally around the inner lateral portion of the triangular band. Beginning at the edge of the board, the

spiral turns gradually ascend, the roller being always tightened, and each turn joining closely the foregoing. Where they reach the leg, the roller is cut out, the end spread on the bandage (at *a* Fig. 1). In the same way, spiral turns are then made around the external lateral portion of the triangle. The object of the spiral roller and of the tight application is to double up the three strips which constitute the sides of the triangular band and to transform these bands into two round, slender columns, which we may call *plaster stilts*. The strength of the stilts will be increased, and their appearance greatly improved by coating and smoothening them with plaster cream. After the stilts near the ankle are completed, a second pair is, in like manner, made up under the knee, corresponding with the upper block-pillar. After a few hours, the stilts will be dry and hard, and then, taking away the blocks, the surgeon will find that the leg is very securely and comfortably supported by the plaster-stilts, on a level from six to eight inches above the board—plaster-bandage, stilts and board forming one whole immovable apparatus. (Fig. 2.)

FIG. 2.

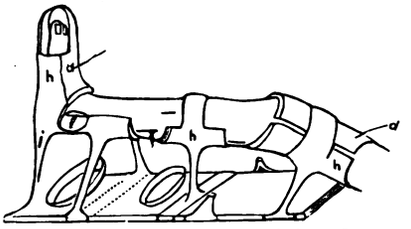


When I first employed the method here described, I made three pair of stilts, also one single one, reaching from the sole of the foot to the lower end of the board. (Fig. 3, *i*.) I also thought it necessary to make the stilts of five longitudinal and two spiral layers of roller bandage, and to coat all these with a large quantity of plaster cream. Of course, I produced a very heavy and clumsy apparatus. Later, I learned, with much astonishment, that even a slender column thus constructed, had all the strength required. Even three stilts, two at the knee-joint, and one extending from the foot to the lower edge of the board, (Fig. 3, *i*), would be sufficiently strong to support a leg,

but as the single stilt necessitates much extra labor to fasten it to the board, its construction is more tedious and less expeditious than that of a pair of stilts at the region of the ankles. Therefore, after my experience, I would recommend the plan first given as the best; viz., two pair of stilts. The advantages afforded by the apparatus just described are:

1. *There is no difficulty, even in the country, to get the materials we need, or to use them properly.* I think I hardly need say, that the description given of the blocks, the wedges, and the way of setting them up, is to be taken *cum grano salis;* for, as the hospital-surgeon can, at all times, have in

FIG. 3.



readiness in the splint-room sets of blocks, etc., just as well can the ill-provided country practitioner use whatever he finds at hand, as stones, bricks cut in pieces, for blocks, or rags instead of wedges, articles he can obtain, even in the poorest family, should he be obliged to treat there a case of compound fracture of the leg.

2. *The dressing of the wound is easy for the surgeon and painless for the patient.* As every part of the leg is exposed, the surgeon can touch any spot with finger, probe or forceps, or, by bending his head, he can inspect the lower portion of the limb, or the calf, without moving the patient a hair's breadth. The time required for dressing the wound will be much shortened by saving the task of piling up the cushions, pads and sand-bags, and of adjusting splints and suspending strings, and the surgeon will be enabled to shorten the time of his visits, much to his own and the patient's benefit. He is also more independent of the nurses and the stewards,—an advantage of no less importance in an overcrowded ward, than in the country where you are almost always as-

sisted by inexperienced hands. Furthermore, the apparatus will be found very suitable for the treatment of the flesh wound attending the fracture, because vessels can be placed everywhere under the plaster bandage, to receive the discharge, or water running down from it, or out of the drainage tubes. Ice-bladders or poultices can be applied to the bandage without difficulty, For readers acquainted with Lister's antiseptic dressing, which yields, in the grave cases of compound fracture of the leg, the most brilliant results, I will add that my apparatus permits also the application of the spray and carbolized muslin rollers.

5. *The stilt apparatus is useful also in the treatment of erysipelas and progressive suppuration.* Since the plaster of Paris bandage has superseded the use of splints, for the reason that it keeps the fragments better adjusted, these evils undoubtedly complicate a compound fracture less than formerly, yet they occur often enough, especially in gunshot wounds, resulting in much suffering, sometimes the loss of a limb, and even the death of the patient, multiplying besides the surgeon's already tedious labors. To illustrate the application of my method, I append notes of a typical case:

In 1874, a case of compound fracture of the leg, caused by a heavy wagon passing over it, was admitted to my division at the hospital of Basle, Switzerland. Both bones were broken, the tibia splintered, and a lacerated wound, as large as the palm of the hand, was found about two inches above the ankle joint, on the inner side of the leg. The soft parts were also badly bruised. The fracture was at once incased, and after two hours, placed on stilts, as described; a compress, soaked in an antiseptic solution, was laid on the open wound. During the first three days nothing worthy of note occurred, but on the fourth day, the wound became very painful and swollen, copious suppuration taking place, the patient becoming feverish. The next morning he was very ill; had had a chill during the last night, and the wound was more painful and swollen; more pus was discharging. On the inner side of the thigh I noticed the reddish streaks, which indicate lymphangitis; the inguinal glands were also painful and

swollen. As the pus seemed to come from above, I enlarged the opening of the bandage upwards, about two inches, thus exposing the suppuration progressing along the long flexor muscles.

A large abscess was there opened. Immediately after the incision, the patient felt greatly relieved, and soon fell asleep for some hours. However, in the evening, the pain became more severe, and the next morning I discovered a pouch connected with the abscess, already opened: the pouch extending downwards and backwards in the calf. The bandage was cut away in the same direction, and to a sufficient extent to fully expose the region, where the redness, swelling and pain betrayed the deep-seated matter. A large incision was made, and the pus allowed to escape through a drainage tube into a vessel beneath the leg. The next ten days the patient did well, the lymphangitis disappeared, *pus bonum et laudabile* was secreted from the wound, mixed with detritus of the bruised tissues. On the morning of the fifteenth day, however, I found the patient once more feverish; he complained of throbbing and burning in the leg. There was no remarkable change about the wound, and the two abscesses before opened seemed to be cicatrized. But on gently examining the skin with the finger, as far as the leg was exposed, a suspicious reddish tint and a certain tenderness about the upper edge of the opening, induced me to still enlarge it in the same direction. I discovered a large abscess, which could only be wholly laid open by cutting away the inner half of the bandage to the knee-joint. Perhaps some one will ask: "How was it possible to take away the inner half of the bandage from two inches above the ankle to the patella, and also a piece as large as the palm from the back, without destroying the whole apparatus?" "Just by means of those stilts," I answer. According to the directions given above, I had put the incased leg on four stilts, *i. e.*, one pair near the ankle, the other pair just below the popliteal region. When the opening in the bandage was first enlarged, the latter was undisturbed, and so it was when I took a piece from the back. Only when the last large abscess was revealed, the inevitable sacrifice of the inner stilt

of the upper pair caused some apprehension as to the safety of the structure. However, I could easily secure the apparatus, as I had done before in several cases, that is, before exposing the abscess, I erected a new stilt above the knee-joint. This stilt was made as previously described, with the only difference, that the roller, after crossing beneath the board, was divided so that the end could be spread over the latter. After some three hours, when the new stilt had become dry, I could cut off the inner, upper stilt without any danger, its task being assumed at the same moment by the new stilt.

Changing the stilts is to be regarded as most advisable, and for this reason I append the notes of another of my cases treated in 1874.

After incision of the right ankle joint, I had put up the leg very comfortably by means of two plaster of Paris splints, an upper or dorsal, and a lower or plantar. They were modeled to the leg one hour before the operation, and coated with paraffin, so as to render them waterproof. Afterwards, I applied the stilts. Rather profuse suppuration followed, and on the fourth day a very serious phlebitis, (venæ saphenae magnae,) and two days afterwards erysipelas migrans, which caused several abscesses, so that, at different intervals, I had to take off the whole upper-splint from the ankle-joint to the patella, and I proceeded in about the same manner with the back, taking away at first a piece as large as three fingers, from a little above the insertion of the tendo Achillis. About ten days later, I discovered an abscess on the upper third of the calf. When I perceived, that, by cutting away the necessary amount, the whole back of the leg would be deprived of all support, I proceeded to secure the endangered piece as follows: With a well wetted plaster roller I made two circular turns in the middle of the leg, corresponding to the middle piece of the back splint to be secured. On the third turn I went around only to the middle of the calf, where I ordered my roller to be held in a loop, formed with another plastered roller by an assistant from the opposite side. After the two ends of the loop were clipped and spread on the circular turns, my own roller appeared fastened to the middle of the calf, whence it proceeded

perpendicularly downwards to the board, and, whilst an assistant's forefinger held the bandage to the board, I carried it straight across to the edge of the board, crossed it underneath and returned from the opposite side to the foot of the perpendicular band and around it, securing it by spreading the clipped end of my roller on the board. In just the same way I made two more turns with my roller and lastly dressed the stilt by means of spiral turns and coating with plaster cream, as heretofore described. When the stilt was dry, I removed the piece from the back splint, which I had to take away by means of a small saw, after which I found the remaining middle portion of the back splint very properly supporting the calf, as a kind of *pelotte* on the top of the column. (Fig. 3, p.) In this apparatus the patient was kept over three weeks and during this whole time the wound and all the abscesses were constantly in sight and opened as soon as fluctuation was evident. There was no difficulty in dressing the wounds. In spite of the erysipelas the process of granulation proceeded very well, and after fifteen days there was no more fever. After the lapse of three weeks, nearly all the abscesses were cicatrized, and the consolidation of the bones was sufficiently strong to warrant the changing of the remnants of the first apparatus, on about the 25th day after the operation. I believe one should hardly go further than just described in cutting away and mutilating the bandage, yet I think the readers will agree with me, that it is sometimes very convenient for the practitioner, and no less beneficial to the patient, to defer its renewal even for two or three days by the means mentioned. In the case last reported, I would attribute the prompt healing of the wound chiefly to the absolute rest in which the foot and the leg were kept more than three weeks; during the third week this rest was only possible with the stilt put under the calf.

5. *It is almost needless to say that compound fractures of the leg are not the only cases where the stilt apparatus may be used.* The surgeon will find it very suitable also, in the after-treatment of cases of excision of the knee, elbow and ankle joints.

6. *There is no difficulty when the nurses render proper*

services to the patient, as with the bed-pan, cleaning the bed, etc.

The apparatus I have described is a modification of the method described some ten years ago by Dr. Ries, Billroth's assistant at Zürich and described in an interesting pamphlet on the plaster of Paris bandage. Dr. Ries puts the encased leg on two or three small blocks, with an upper concavity, fastening the leg and the blocks on a board by means of either an ordinary or a plastered roller. When I entered as house surgeon the hospital of Basle, Switzerland, I learned from my predecessors the method; a vast number of blocks and boards being at hand in the splint-room. But, as the reader will perceive, Dr. Ries' method is rather clumsy; the blocks move very often; there is not a free space all around the leg, etc.; so that I thought it might prove useful to publish a description of my stilt apparatus, because since I first devised it in 1874, I have proved its advantages in many different cases.

Should it be thought that I have employed too many words in explaining a very trifling affair, my response could be best formulated in the apoththegm of Dieffenbach, the great master of our profession: "that in surgery success almost always depends upon the scrupulous and rather pedantic observance of a host of trifles."

HYSTERICAL APHONIA.

By G. Whitefield Ward, A.M., M.D.

[Late Clinical Assistant to the London Throat Hospital, etc., etc.]

There is no subject in the whole history of medicine so open to controversy as hysteria. One author defines it, "a perversion of the will;" another, "an inability or indisposition to exert the will;" whilst a third, denying that it is a special disease, says that it is "merely a symptom," and defines it as "a series of phenomena occurring in the course of a disease, sometimes known and sometimes obscure." Louyer-Villermy, decidedly holds that every hysterical woman is short, stout,

dark, plethoric, and full of life and health. Sydenham, White, Copeland, and English writers in general, represent the hysterical predisposition with almost the very opposite characteristics. Whilst Briquet says the disease takes women as it finds them, blondes, brunettes, stout, thin, weak, ruddy, or pale, there is no choice. My idea in giving these different opinions is to show how impossible it would be for any one to form a correct view of hysteria by a perusal of the literature current upon the subject. Taking this fact into consideration, it is not at all surprising to me that writers have hitherto confounded hysterical loss of voice with the so-called functional aphonia, setting down hysteria as a prime cause of the latter, and I shall endeavor, in the present article, to rescue hysterical aphonia from the mire in which it has inadvertantly fallen, and place it upon a firm and substantial basis of its own.

DEFINITION: *Hysterical aphonia* is that species of loss of voice which is due to some defect or perversion of will power presiding over the physiological action of the muscles of the vocal cords, which, for the time being, causes a false or simulated paralysis of these muscles.

Functional aphonia is that species of loss of voice, which is due to a true paralysis of one or more of the muscles controling the action of the cords, and preventing their approximation or their due tension when in apposition. As may readily be inferred from the first of the two definitions given above, the theory which I advance, and shall endeavor to prove, with regard to a case of pure, uncomplicated hysterical aphonia, is, that there is not the slightest paralysis of any of the muscles controling the action of the cords, that the muscles themselves, and the nerves presiding over their action are in a perfectly normal condition, and that the trouble lies with volition, which, from some cause or other, is deficient or perverted.

Hysterical aphonia is most liable to occur in the single female at or about the time of the commencement of puberty. The luxurious and lazy habits peculiar to a certain class among the wealthy, a class that have literally nothing to occupy their minds, except the perusal of silly novels, and the performance

of the sillier things that "society" prescribes, conduce to the development of hysteria. The exciting cause is generally some sudden emotional disturbance; as shock, caused by sudden death of a near relative; fright brought about by some impending calamity, as shipwreck; or anxiety produced by the continued absence of a missing husband or child.

Functional aphonia is liable to occur in both sexes and among all classes of society, from the richest to the poorest, although one type of it, namely, that dependent upon anæmia, is more apt to overtake poorly-nourished working girls, especially that class who are obliged to sit through long and weary hours in closely-confined badly-ventilated apartments. A paresis of one or more muscles of the cords, from a prolonged bad usage of the voice, is common to all trades and professions, especially those that require a continuous loud talking, or, more properly speaking, a shouting in the open air, as the auctioneer, the stump speaker, the hawkster, &c. The same thing may happen to a singer from a sudden strain of the cords during too great an effort at vocalization.

Symptomatology. The will is perverted and defective, while ideas exhibit excessive activity. The hysterical patient says that she cannot speak aloud, and while under the belief that the action is impossible, it is so, although it may be obvious that the patient is pretending, or acting a part, for the time being; it is also often true that the hysterical patient states the fact. What she wants is motive, which may often be supplied by a sudden alarm or accidental circumstance. This symptom, or idea, is not confined to talking, but is manifested in other voluntary acts; one person says she cannot move this or the other limb, another that she cannot stand or walk, a third cannot open her eyes. But often, under the influence of some unexpected event, they do the very things that were said to be impossible. Hammond says that "hysteria is a partial insanity—an insanity, however, in which the patient does not entirely lose control, and which is capable of being overcome by the voluntary effort of the patient, provided a sufficient stimulus to normal condition be brought to bear. It thus happens that through the influence of such stimulus every

symptom of hysteria disappears as if by magic." If you examine the larynx of a person suffering from pure, uncomplicated hysterical aphonia, you will see that the throat is healthy, or is simply relaxed, the vocal cords being widely separated, and slight effort being made for their approximation. The patient makes no attempt to whisper aloud; the failure is evidently not in the apparatus of the voice, as a mechanical production, but in the will to put that machinery into play. A common symptom is that of a ball, or lump, in the throat, a something which the patient cannot swallow, and which she feels will choke her. It seems to her as if something were tight there; she makes constant attempts to swallow, but the lump will not move. Mental and emotional conditions are apt to be exaggerated in a great degree. I have frequently seen the mere introduction of the mouth mirror of the laryngoscope bring on paroxysms of immoderate and uncontrollable laughter, which seem to have been excited by sensations of tickling experienced by the patient. I have also seen the same manipulation set up a prolonged fit of sobbing, the patient asserting that the introduction of the mirror caused great pain.

If you examine the larynges in cases of aphonia dependent upon true paralysis of the vocal muscles, the parts will present a picture differing widely from that depicted in the hysterical type. If the tensors are involved, an impaired vibration will be observed; if the arytenoideus is affected, the glottis will be widely open posteriorly; if the combined action of the crico-arytenoideus lateralis, and the arytenoideus is prevented, the vocal cords will remain widely separated, without any appearance of coming together. The general appearance and condition of the internal structures of the larynx in this latter class of cases will depend entirely upon the cause; if from anæmia, there will be a diffused paleness, not, however, confined to the windpipe, but extending upwards into the fauces and mouth, especially marked in the mucous membrane covering the hard palate; if from overstrain of the voice, whether from acts of singing or speaking, the vocal cords are apt to be found congested and mottled red, with possibly a little thickening, the

ventricular bands to be more highly colored than natural, and slightly enlarged, and the neighboring parts inflamed.

Diagnosis. If the symptoms already described be borne in mind, and the history of each case be carefully considered, there is not much difficulty in diagnosis. The form of true paralysis of the cords, which is most likely to be confounded with the hysterical type, is that in which the cords remain widely separated during an attempt at phonation, the difficulty being in the crico-arytenoideus lateralis and arytenoideus, the adductors of the vocal cords. These two conditions can be readily diagnosed if the following test be employed. When the mouth-mirror is in situ, direct your patient to cough; if the case is one of true paralysis, the cords will not be visibly affected by the act of coughing; if it is one of hysterical or false paralysis, then the cords will be seen to adduct and approach each other in the median line. This forced adduction will invariably occur in connection with hysterical loss of voice. Another diagnostic point, and one that will instantly set all doubt aside, if it is present, is, that frequently, when undergoing a laryngoscopic examination, the hysterical patient will forget all about her infirmity, and utter, in a natural tone, the vowels a and e, when requested to do so by the examiner, the excitement of the moment being sufficient to divert the sufferer's attention from the throat, and allow volition to act normally. I call to mind an interesting case, illustrative of the above point, which occurred to me in my practice a little less than a year ago. The patient in question, a young lady æt. 18, suddenly became aphonic, about two weeks prior to my seeing her. The history which I elicited at the time established the fact that she was of an hysterical diathesis, but threw no light upon the exciting cause of the aphonia. She had always been of a nervous and excitable temperament, and was in the habit of losing control of her emotions at the most trivial circumstance. I further learned that the patient was subject to attacks of aphonia, having lost her voice several times before, but that the lost power had, in each instance, returned within a week.

Laryngoscopic examination. The larynx was found to be

in a perfectly healthy condition, likewise the fauces and mouth. On requesting the patient to say a, to my great surprise, she did so, speaking in a clear and loud tone, although but a moment before she had postively asserted that she could not talk above a whisper. During the above act, both cords were distinctly seen to adduct and approach each other normally, in the middle of the air tube. Upon withdrawing the mouth mirror, and again requesting my patient to say a, she could not give utterance to that letter above a whisper, showing clearly that the cords were not being adducted. Another laryngoscopic examination was made with the same result as the first, the voice being restored, only to be lost again on the withdrawal of the mirror. Not fully appreciating the symptomatology of this case, I applied a mild astringent to the cords, and requested the patient to call again. On the occasion of her next visit, I followed exactly the same course in my examination as above described, with exactly the same results. Feeling confident that no ordinary plan of treatment would ever restore her voice, and that some sudden shock was necessary to produce the desired effect, I determined to invoke the aid of electricity; to this end I made use of the strongest current obtainable from a single-celled electro-magnetic apparatus, applying the negative pole externally over the thyroid cartilage, by means of an ordinary sponge electrode, and the positive pole directly upon the vocal cords, by means of Mackenzie's laryngeal electrode. Immediately, on receipt of the shock, the patient made violent efforts to escape, wildly gesticulating, and screaming outright, and I was compelled to withdraw the instrument, having retained it within the larynx for a few seconds only. This one somewhat severe application completely restored the voice of this patient, and the cure has been permanent up to the time I last met her—a fortnight ago. I confess that this case completely mystified me at the time, my ideas of hysteria, both as regards its pathology and histology, being very vague. It also stimulated me to a desire of more thoroughly understanding and comprehending the various phases developed in connection with hysteria, especially in its relations to aphonia. To this end, I made a careful examination, both subjectively

and objectively, of all cases of aphonia which applied for treatment at the "London Throat Hospital," during my term of service, which were set down as hysterical. In the above case, the mere act of introducing the mirror caused the patient to forget all about her lost power, and to unconsciously say a. The slight diversion brought about at the time of the examination was sufficient to turn the perverted will power into its proper channel, and allow the delicate laryngeal muscles to adduct the cords in a normal manner. If the aphonia had been due to a true paralysis of the adductor muscles, would it have been possible for it to have been dispelled by such a slight circumstance as making a laryngeal examination? By no means; the deficient muscular action would have to be restored by a regular and judicious course of treatment, applied with especial reference to the cause, and no diversion of mind or shock of any description would restore the lost power. When I withdrew the mirror and spoke to the patient, she answered me in a whisper and could not, or would not, speak aloud; there being nothing to occupy her mind, the one idea, the lost power, predominated.

Another very instructive and most remarkable case of hysterical aphonia came under my notice at the "London Throat Hospital."

The patient, a woman æt. 24, had suffered with complete loss of voice, of six months duration. On the day of her application for treatment, she started out with an associate to walk to the hospital, a distance of about two miles. During her journey thither, she quite alarmed her companion by addressing her in conversation, speaking aloud for the first time in six months. On questioning her at the hospital, prior to a laryngoscopic examination, she declared that her voice was as good as it had ever been. A careful examination elicited nothing except a little paleness of the ventricular bands and neighboring parts, and the cords were found to act perfectly well in every respect. Having applied a mild current of electricity direct to the cords, and ordered a mixture composed principally of ammoniae carbonas, the patient was dismissed, apparently cured, and as she did not return during my stay

there, I conclude that her recovery was permanent. I do not think it could be possible to produce any combination of cases so remarkably illustrative of the affection to which I have devoted these pages as the two enumerated above. Hysterical manifestations developed in other parts of the body than the throat, seem to me to afford further proof of the correctness of the theory which I have advanced. J. Russell Reynolds, in "Reynolds' Practice," comparing hysterical paralysis of the lower extremities with true paralysis of these organs, says "that the ataxic or paraplegic patient tries to walk; the hysterical girl tries to show that she cannot use her limbs; if the former forgets himself, he falls; if the latter forgets herself, she walks." Most every experienced practitioner has met with cases of hysteria in his practice, in which the seemingly lost muscular power, whether of the arm, leg, or other member, could be completely restored, for the time being, by a little tact or ingenuity in absorbing the patient's attention, or directing her thoughts in a different channel. Hammond, in his "Diseases of the Nervous System," relates the case of a young lady who came under his charge for what was supposed to be a disease of the spinal cord; she had taken to her bed suddenly, soon after striking her back rather gently against the edge of the table, declaring she could not walk. On examination, he (Prof. Hammond) was convinced that there was no disease whatever of the spine other than that of a purely hysterical character, and so he expressed himself to her. She, nevertheless, insisted upon it that her spine was seriously injured, and she continued to keep her bed, lamenting daily her sad fate at being compelled to pass so long a time shut out from the enjoyments of life. There was no paralysis, for she moved her legs about freely enough in bed. But one evening, her brother, who had been long absent, returned home. She heard the bustle in the house attendant upon his arrival, but all were too busy to pay any attention to her in the chamber up stairs. Suddenly exclaiming, "I can stand this no longer," she sprang from her bed, rang for her maid, and hurrying on her clothes, proceeded down stairs, and entered the drawing-room, to the great surprise of all her family. The same author

records another instructive case, namely, that of a lady who closed her eyes, and declared that she could not open them. She was brought to the professor as a case of double ptosis. He, after finding no evidence of such cerebral lesions as are generally met with in cases of ptosis, and having ascertained the fact that she was of an hysterical diathesis, expressed the opinion to her friends that the closure of her lids was not dependant on true paralysis of the muscles controling their action, but on hysteria, or, in other words, it was a hysterical simulation. The application of the induced current proved so disagreeable, not to say painful, to the patient, that two applications were sufficient to restore her volitionary power so that she opened her eyes without difficulty. Savory, in an article on hysteria, in "Holmes' Surgery," says "that hysteria frequently occurs strangely disguised, and its essential features concealed in the garb of some other disease whose characters it assumes and whose symptoms it mimics. This it is which specially gives interest and importance to hysteria, which so often renders it a stumbling-block in the way of a correct diagnosis, frequently the similarity of its symptoms leading to the error of mistaking a simulated for a real disease. And this form of hysteria has been aptly termed protean, for there are few diseases the symptoms of which are not at times more or less mimicked by this singular affection."

Therapeutically, the differentiation of hysterical aphonia from the functional variety is of vast importance, not only to the success of the practitioner, but also to the welfare of the patient, for if a case of ordinary functional aphonia be set down as hysterical, and the physician start with the idea that the paralysis is simulated, he is apt to pursue a too harsh plan of treatment, namely, the undue use of electricity, which will have a tendency rather to increase than to diminish the difficulty. In functional aphonia, the continued and systematic employment of mild currents of electricity, combined with astringent applications to the cords, and the internal administration of tonics, such as quinia and iron, if there be co-existent anæmia, will in nearly every instance, effect a cure. In hysterical aphonia, a sudden, powerful shock of electricity will

generally restore the voice, and frequently a second application will not be necessary, the fear of a repeated dose proving sufficient stimulus to volition to allow it to act in a normal manner.

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AN IMPROVED METHOD OF PERFORMING THE RADICAL OPERATION IN EMPYEMA.

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The removal of pus from the pleural sac by means of the aspirator, even though often repeated, is not likely to cure the patient, however, in rare instances recovery follows this method of treatment, therefore it is advisable to give it a trial.

As soon, however, as it becomes apparent that this procedure is not sufficient, the radical operation, or the establishment of an opening for free drainage and cleansing of the cavity is indicated.

With regard to the operation, Prof. Flint in his work on practice, says, " An opening should then be made at the bottom of the pleural sac, allowing the pus to escape freely. Air will gain admission into the chest, and, since this is unavoidable, its ingress and egress should be unobstructed. A small orifice, not sufficient for the free escape of the pus, and allowing air to be pent up within the pleural cavity, is injudicious. The pus becoming decomposed and fetid, acts as an irritant on the inflamed surfaces, whereas, if it drain away as fast as it is formed, and the cavity of the pleura be well ventilated, this result does not follow."

Dr. W. W. Gerhard, in the revised edition of his work (1860), remarks of this operation, the chances of recovery are not on the whole increased by the operation, unless it be performed very carefully, and it is one which we should not practice, unless it be to relieve excessive dyspnœa. After refer-

ing to Dr. Bowditch's method of operating, he says, "I must confess that the operation is always of doubtful benefit, and very often inadmissible. Indeed, in ordinary cases of chronic pleurisy, I would not dream of performing it."

On this subject, Prof. Frank H. Hamilton in his work on military surgery, says, "The existence of pyothorax having been fully ascertained, no time ought to be lost in giving the pus a thorough evacuation." He also says, regarding idiopathic pyothorax—this term being employed in contradistinction to traumatic—"It is of the highest importance to exclude air." On the contrary, Doctor Fuller thought the admission of air of not the slightest importance.

Doctor Bowditch is in favor of excluding the air, though he does not lay great stress upon this point. The use of a drainage tube as first proposed by Chassaignac, and afterwards practiced by Drs. Gosselin, Goodfellow and DeMorgan, is recommended by Drs. Waters, Watson, Aitken and others. Prof. Gross in his System of Surgery, fourth edition, 1866, says of the use of the drainage tube, "This treatment it seems to me, should not be encouraged, as it is both harsh and dangerous." The drainage tube here mentioned was introduced between the fifth and sixth ribs and brought out at the lower part of the pleural sac through a counter opening.

Fraentzel in the fourth volume of Ziemssen's Cyclopædia, says of this treatment: "No physician would now carry out drainage in the way it was proposed by Chassaignac."

In the Boston *Medical and Surgical Journal*, August, 1874, Dr. Henry Clarke, of Worcester, after reviewing the various methods of operating that have been suggested, remarks, that after two thousand years of experience and prolonged discussion, concerning the expediency of the operation and the method of operating, we come back substantially so far as relates to empyema, to the simple practice of Hippocrates, that is to opening freely with the knife and keep the incision open so long as pus continues to collect.

The weight of authority is in favor of free drainage, and while many do not think the entrance of air injurious, perhaps for the reason given by Dr. Flint, viz., that it is unavoidable,

there are many others who think its exclusion a matter of no little importance. To accomplish this end, it has been recommended that the operation be made under water with the patient in a bath, and that the wound be hermetically sealed.

Mr. Erichsen suggests that a canula or an elastic tube may be left in the wound to allow the pus to be drawn off and the cavity cleansed. The late Prof. Freer, Drs. Andrews, Powell, and others have used a siphon drainage tube introduced through a free opening into the chest; but all the methods heretofore recommended, contemplate either the frequent repetition of the operation or the admission of air.

Frequent operations by means of the aspirator have not thus far been attended with satisfactory results, and although the entrance of air into the pleural sac is not a serious accident, still it leads to putrefactive changes in the pus, if this be not removed so fast as formed; and, from several cases observed in the Roosevelt Hospital in 1873, it appears that the amount of pus secreted is much greater in patients where air is freely admitted than in those where it is excluded, another fact in support of the position of Drs. Hamilton, Bowditch and others.

By the modification in the operation suggested in this paper, we secure the essential points insisted upon by nearly all who have written on this subject; viz., free drainage and the exclusion of air.

For the improved operation the following articles are required: A trochar, the canula of which is of just sufficient size to allow the passage through it of a drainage tube; a piece of soft rubber for a valve, 2½ inches in diameter, such as dentists use for the rubber dam, excepting that it should be about twice as thick; a piece of rubber tubing (drainage tube) about 3-16 of an inch in diameter, and a foot and a half to five feet in length; an elastic bandage, two inches in width, long enough to reach around the patient's chest and pin; and a small ring, which, when slipped over the bent drainage tube will hermetically seal it at the point of flexure.

The drainage tube should be perforated on the sides in three or four places, near the extremity, which is to be inserted into the chest. It should then be marked with ink at distances of

about six and nine inches from the same end, so that when introduced, we may know how much of the tube is within the pleural sac.

The operation is performed in the following manner: The patient being ready, the tube is filled with water, its distal end closed by the ring, and placed in a basin of water beside the bed. The trochar is thrust through the centre of the small piece of rubber, which is to act as a valve, and this is drawn over the canula. Having oiled the trochar, it is to be thrust into the chest, at either of the points usually recommended for the operation.

As the stilet is withdrawn, the thumb should be placed over the end of the canula to stop the flow of pus until the drainage tube can be reached. The tube is then crowded through the canula for a sufficient distance, and the canula is withdrawn; as it leaves the chest walls, the rubber valve is slipped off upon the tube close to the surface of the chest. The extremity of the tube may now be opened under water, the canula slipped off and the pus allowed to flow.

As the stilet is withdrawn, the pus escapes in a full stream, and during the passage of the tube through the canula no air can enter, on account of the pressure of pus from within.

In this way, the operation can easily be completed without the entrance of a single bubble of air.

After the tube is inserted, an aspirator can be attached, or the pus may simply flow out through the siphon. The latter method is sometimes preferable, as the aspirator is liable to cause too great atmospheric pressure upon the expanding lung, and consequent rupture of some of the smaller blood vessels. After the pus has ceased flowing, the cavity may be washed out with a one or two per cent. solution of carbolic acid, at 100° F., or the cleansing may be deferred for twenty-four or forty-eight hours.

The latter method would probably cause less irritation than the former.

After the pus has been discharged, a slit should be made in the middle of the elastic bandage, a couple of inches in length, for the passage of the tube, and the bandage should then be pinned snugly about the chest, over the rubber valve.

In the after treatment, the pleural sac should be cleansed once or twice daily with a weak solution of carbolic acid. During the treatment, if the cavity ceases to diminish in size, other injections may be substituted.

In cleansing the cavity, the end of the tube should be placed under water, in a basin, which can be raised to any desired height. The fluid flows into the chest through the siphon and then out by the same means.

Between the visits of the physician, the end of the tube may be left under water, to which a little carbolic acid has been added, or it may simply be bent upon itself and closed, by slipping over it the little ring. Though the former method is preferable, the latter will sometimes be found necessary with restless patients. If the latter plan is adopted, the cavity should be cleansed twice a day.

For two or three days, the soft tissues in the intercostal space grasp the tube firmly and keep the cavity hermetically closed, but at the end of this time, the tube becomes loose in the opening through the chest walls, so that air would enter, or the tube would fall out, were it not for the piece of rubber, which was placed on it when the canula was withdrawn.

This rubber not only acts as a perfect valve, when held by the elastic band, to prevent the ingress of air, but it also holds the tube in position, with sufficient firmness to prevent its being withdrawn by any ordinary force. The tube may be still further secured, if thought best, by a bandage placed about the chest.

The slit in the elastic should be long enough to allow some movement of the bandage without traction on the tube.

The force with which the fluid flows into the cavity may be perfectly regulated by the height of the column of water in the siphon. As soon as the cavity becomes slighty distended, the patient will complain of uneasiness or pain in the chest, and then the tube should be at once lowered, to stop the flow.

As healing progresses, the size of the cavity may be accurately determined from day to day by the amount of water required to fill it.

This has the advantage over methods usually recommended

of occasioning but a trifling wound, and consequently slight constitutional disturbance from that cause—of preventing the entrance of air—of simplicity in the operation and convenience in after treatment—of painlessness after the soreness from the puncture has subsided, and of comfort and neatness for the patient. It is nearly as simple as paracentesis with the aspirator, and is attended with little if any more danger to the patient.

It might be used in those unyielding cases of chronic pleurisy with serous effusion, where the cavity rapidly refills after paracentesis.

In illustration, I subjoin the reports of two cases operated upon by this method.

Case I. A patient of Dr. P. H. Matthei. Seen in consultation with Drs. Matthei and E. Ingals, December 1st, 1876. E. G., aged four years, was attacked with rheumatism four weeks ago. A few days later complained of pain in left side, evidently of a pleuritic character. To-day the patient complains of severe pain in left side of neck; he has lost considerably in strength and weight,—appetite poor, thirst considerable, digestion fair, bowels loose, urine scanty at times and profuse at others. Pulse small and quick, 130 per minute; respirations, 40. Frequent hacking cough with no expectoration. Curvature of spine with immobility of left side and bulging, especially of left mammary region. Flatness over greater part of left side, with feebly transmitted respiratory sounds. Apex beat of heart within half an inch of the right nipple. Just below the nipple the left side measured ten and five-eighths and the right nine and five-eighths inches. Introduced needle of aspirator near the angles between the eighth and ninth ribs, and withdrew five and a half ounces of thick yellow pus, when coughing came on and the pus ceased flowing; although the cavity was not empty the needle was withdrawn. After the operation the apex beat could be felt about three-eights of an inch nearer the sternum. Soon the child became quiet, and he subsequently did well for several days. The severe pain in the left side of the neck had been entirely removed by the operation.

Dec. 7th. Pain in neck has returned. The patient very restless and suffering from dyspnœa. Punctured the chest again near the same point as before and withdrew eighteen ounces of healthy pus. A few drachms of blood flowed with the last of the pus. The impulse of the heart changed in consequence of operation from a position near the right nipple to the left side of the sternum. The respiratory sounds became quite distinct in left lung. The child did well for two or three days after the operation.

Dec. 12th. Respirations, 44; pulse, 150. Patient very weak. Apex beat near right nipple. Performed paracentesis near the point of the last puncture and withdrew fifteen and a half ounces of pus. The heart returned nearly to its normal position and the left side which had measured eleven and one-fourth inches before the operation, measured only ten and three-fourths afterward.

Dec. 21st. The patient did well for four or five days after the last operation, but for a few days he has been losing; suffering greatly from dyspnœa and pain. During last night he took, beside several grains of bromide of potassium and several drops of laudanum, a grain and a half of morphia in doses of a quarter of a grain each, yet he did not sleep. There is œdema of the left side of the chest as low as the last rib where it abruptly terminates. The struggles of the child in opposing another operation, caused the wound of the last puncture to re-open. From the opening, thick pus slowly escaped.

In the afternoon of this day, I operated in the method described, excepting that air was allowed to enter the chest. The aspirator was applied after the dressings had been secured and the air withdrawn with the remaining pus. Twenty-three ounces of a thick, greenish-yellow pus were obtained. About half an ounce of blood flowed after the aspirator had been attached. The pleural sac was not cleansed in this case, until the following day, afterward it was washed out every day with a one per cent. solution of carbolic acid. The tube was bent upon itself and kept closed, excepting morning and evening when it was opened under water and the pus allowed to flow

out. The pus remained more or less bloody for several days. The cavity was rapidly obliterated so that in two weeks it would hold only two ounces. Three weeks after the operation it was noted that the child had been suffering for several days with rheumatic pains, and that he had just passed through an attack of varicella. Not more than half a drachm of pus had escaped morning and evening for several days, and the cavity would not hold more than two drachms.

Jan. 13th. The bandage having been removed, the tube fell or was crowded out to-day—cavity entirely obliterated.

Four weeks after the operation, the patient was discharged by Dr. Matthei as cured; the opening in chest was healed, the lung expanded freely, the impulse of the heart was normal and there was no dyspnœa. A month later there was slight curvature of the spine and depression of the left side, but after a few weeks the child presented a normal appearance of the chest and was in perfect health. During the treatment from two to three grains of quinine were administered daily, and Dover's powder or morphia were administered when needed to relieve pain and secure rest.

March 18th, 1877. CASE II. Mrs. P., aged 30, mother of two children, youngest about three years of age. Has been sick about eighteen months. From the history, seems first to have had pleurisy. Was attended for several months by regular physicans, and then fell into the hands of a quack, who maltreated her for nine months.

The patient is very feeble; harassed by an almost constant cough, and frequently expectorates a considerable quantity of grayish white sputa, of a nummular form. Complains of severe pain in the right side, for which she is obliged to take frequent doses of morphia. Pulse, 118; respirations, 28.

Dullness on right side above fifth rib in front, and above sixth behind. Flatness below these points, and extending one inch higher in axillary region. When lying upon left side a slight degree of resonance extends about an inch lower in the axillary region. Heart one half inch farther to the left than normal. Retraction of right side. On a level with the sixth costal cartilage the sides each measure nearly fourteen inches,

the left may be an eighth of an inch smaller. Left side moves half an inch in full inspiration. No expansion of right side. With the assistance of Dr. D. R. Brower, I administered nitrous oxide gas, and punctured the chest between the seventh and eighth ribs, a little in front of their angles, but as no pus was obtained the needle was withdrawn, and another puncture made about an inch nearer the spine, between the sixth and seventh ribs. From this opening we withdrew six ounces of thick yellow pus. The patient steadily improved after the operation for about three weeks. Twenty-four hours after the operation she was able to sleep comfortably without morphia, as her cough and pain had entirely disappeared. The cough returned in about twelve days, but was not severe. Eighteen days after the operation, slightly amphoric resonance and amphoric respiration were present below the sixth rib, one inch external to the line of the right nipple.

Three weeks after the puncture the coughing became frequent, and the pain returned to the right side. The flatness which had greatly diminished after the operation, became greater than before.

April 15th, four weeks after the aspiration, we again gave nitrous oxide gas, and performed the radical operation as above described, evacuating thirteen ounces of thick pus. We used the aspirator in this case to evacuate the last of the pus; though I now think, it would be better to rely simply on the siphon. One or two ounces of blood followed the aspiration. No air entered the chest. After the pus had been evacuated the cavity was washed out with a weak solution—about one per cent. of carbolic acid.

The end of the tube was kept closed for two or three days, excepting when the pleural sac was cleansed in the morning. Afterward it was placed under water, and constant drainage allowed.

The cavity rapidly diminished in size for eight days, when it would hold only one ounce.

On the evening of the 23d of April the patient, in rising from a chair, accidentally caught the tube and pulled it nearly out of the chest. I was sent for, but finding it impossible to

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family under the same roof, where children were dying with the most virulent forms of the disease, and, after administering to their necessities, return immediately to his bed without communicating the disease to the child who was always his bed-fellow. In like manner, I have often seen the disease limited to the inmates of a single apartment in boarding-houses where several families lived under the same roof, and in tenement houses, and even in private residences where it was possible to isolate a child from the other members of the family. The contagious principle is not sufficiently aerial to diffuse itself through a large house; it must be actually carried from room to room in order to infect an entire domicile. In this respect my experience during the past year is identical with that of previous years.

As for the value of the ordinary disinfectants, I have no decided conviction. Their use is sometimes coincident with the restriction of the disease; but I have also seen it spread through a family in spite of their diligent use. Whether disinfectants may not be serviceable in prevention of contagion by transport of articles which have been in contact with the disease, is still an open question; consequently, I should incline to the safer side, and would join in recommendation of disinfectants. They certainly can do no harm.

As for the mortality of the epidemic, it has certainly been large. During the past twelve months I have lost six cases—eleven per cent. of the total number treated. Of these, five fatal cases occurred during the month of January—the month when the greatest mortality was to have been expected—and with but one exception they were children for whom any acute disease was to have been dreaded. Eleven per cent. is a good round figure; but when I include a series of years in my inquiry, I cannot consider scarlet fever a very mortal disease. Until the present year, a most insignificant per centage of fatal cases of scarlet-fever has been my usual experience—it was two per cent. last year—and I do not believe mine differs, in this respect, from that of many other physicians.

In this connection, it is much to be regretted that we cannot arrive at a satisfactory conclusion respecting the mortality

rate of the present epidemic. The percentage of deaths from scarlet fever as compared with the mortality from other causes is easily obtained; but one need not look far between the lines of the recent report of the health commissioner to the Society of Physicians and Surgeons, to discover that he is not in possession of full returns from the epidemic. In view of the general interest of the community in the matter, and of the remarkable unanimity with which the members of the medical profession rallied to the support of the Board of Health, it is worth while to inquire into the cause of this undoubted fact.

When the physicians of Chicago assembled in council, on the 27th of Jan. 1877, their committee proceeded to report a document, copied at least in part, from the bulletins of the Boards of Health in Boston and New York, and containing a very judicious address to the public respecting scarlet fever and its general management. The report also contained a a statement of "What the Authorites ought to do," to the effect that they should,

1. "Require a report to the health department of every case of infectious disease.

2. "Officially inquire into the origin of disease in each case.

3. "Take such measures as will prevent communication between the infected location or house and those not infected."

Excellent so far. Nothing could be more thoroughly calculated to increase our knowledge of the *statistics* of scarlet fever, to say the least. But then the committee went on from generalities to particulars, of which the very first was most ingeniously calculated to neutralize in great measure, the previous recommendations;—they advised that upon every infected house a "placard" should be placed as a "warning to the public."

This novel device cannot have claimed for it any experience of its utility as a means of prevention of scarlet fever. It is a recent suggestion which originated as a mere proposal in the town of Christiania, Norway, and has been caught up without much consideration by some of the closet philosophers of the latest period. At first sight, the recommendation seems very

plausible. Mark the house which contains scarlet fever; everybody will avoid the spot; the disease will therefore be limited to that dwelling, and the epidemic will soon die out. But in all natural sciences *a priori* speculations are of very little value. Experiment is the only test of the value of an hypothesis; consequently, I have watched with no little interest the course of this experiment. I have taken pains to make inquiries, where I have had no opportunity to make the experiment myself, and my convictions are based upon a pretty wide range of facts; though inasmuch as many of them have come to my knowledge in the shape of confidential communications, I cannot support my position by a citation of authorities and details, such as would be desirable in a strictly scientific document. In conversation with other physicians, I have often remarked a species of uneasiness with regard to the subject of scarlet fever, which is not without significance, and I presume that I have sometimes laid myself open to the suspicion of being a spy from the health office. If such be the case, I hope this paper may relieve me from any such reproach.

What, then, seems to be the practical result of the experiment? A very wide-spread and deep feeling of opposition to the display of placards upon infected houses. This feeling, of course, has not yet invaded the whole community, because only a small portion of its families have thus far experienced the infliction of the nuisance in question. But in almost every case of its experience, the feeling is, to put it in the mildest way, a feeling of profound dissatisfaction. In the first place, the mere sight of a placard is often sufficient to throw a whole neighborhood of nervous ladies into paroxysms of most painful excitement. Strong men, even,—hard-hearted fellows of whom such a thing would never have been predicted—have told me that they could not endure the shock of meeting such a spectre at their door on returning home from business in the evening. There is no doubt that the maintenance of such a notice upon a house is often a very considerable addition to the sufferings of an especially afflicted family. Such feelings should not be disregarded without sufficient cause. In dealing with the community, as physicians, we have

to deal with three great classes of people: Those who are well off in this world's goods, those who live in their shops where their business is conducted, and those of the laboring class who live in the little cottages which are so numerous in this city. Let us see how these different people regard the matter.

The better class of citizens who dwell in large houses with several apartments, are generally amenable to reason of a certain kind. Some of them are exceedingly timid, over anxious and hysterical about sickness. They readily comprehend the current theories about the communicability of scarlet fever, and will do anything rational to prevent the spread of the disease. They obey the counsels of their physicians, and can easily be led to overcome their instinctive repugnance to that degree of publicity, etc., etc., which is inseparable from a public notice of sickness in the house. Were they alone to be taken into consideration, the practice might easily be defended. Mrs. A. drives out, on a fine afternoon, to call upon her dear friend Mrs. B., who lives in a distant part of the city; sees a scarlet fever notice on that lady's door, and, wheeling short about, lashes her horses in the direction of home, with a heart full of gratitude to the board of health, which had saved her from running right into a whole hornet's nest of scarlet rash. A very pretty story—much affected by the partisan of the prevailing fashion; but here is the other side, drawn from my own observation. Scarlet fever occurs in the person of a small child—one of a large family in an elegant residence. Upon the mother—a feeble lady in poor health—devolves the principal care of the patient; but the house is large, the child is isolated from the rest of the family, the servants are well trained, and everything moves on quietly until the fourth or fifth day of the disease, when a sanitary inspector makes his appearance and proceeds to erect his card against the house. This is the signal for a general insurrection among the divinities of the kitchen. "What is the trouble, didn't you know we had scarlet fever in the house?" "Yes." "Are you afraid of it?" "Not a bit." "Why, then, do you insist upon leaving us now?" "Won't stay in a house with *that thing* on the door." And away they go—the outraged goddesses. *Vera incessu pat-*

uit dea. "Well," says the crest-fallen doctor, when he hears this sorrowful tale, "can't we find somebody else to help you? Girls are plenty now." "Yes," replies the disheartened mother, "there are plenty of girls, but they won't, one of them, come near the house while that card is on the door."

Now if there is any one thing in social life which is a little meaner than anything else, it is the doing of that which will take from the invalid mother of a large family, the help of her servants at a time when she most needs their assistance. You can all imagine the feelings of a kind hearted physician when he finds that he has played this scurvy trick upon one of his best patrons and friends. Very naturally, a paper placard is not a very durable affair under such circumstances, and no one but an ass would be too inquisitive regarding the character of the elementary forces which disintegrate such inscriptions.

Let us pass to the other extreme of the social scale.

Sickness has raged for several weeks among the "nine children at the breast," in a single-roomed shanty on Ashbox street. At length, it is decided by a council of toothless crones, that Dr. Robinson shall be invoked. He pronounces it scarlet fever, and a sanitary official proceeds to conceal the greater part of the front of the edifice with a "warning card." He then creates in the house a vile odor, with certain compounds, (an act which, however, should be pardoned when we consider who he is and whence he comes), informs the surrounding population that Dr. Robinson is a fool, who knows nothing about the proper treatment of scarlet fever, and disappears—forever, let us hope. Immediately there is an outbreak in the neighborhood, and the health commissioner is mentioned in terms of anything but flattering respect. The victims of his administration curse without stint, while the spectators simply laugh him to scorn, and the "d—d doctor" who reported the case, comes in for a full share of abuse. The hard horse-sense of the common people, penetrates right through the transparent pretense of limiting the spread of scarlatina by any such flimsy sham as a paper card. It is the old story of Mrs. Partington, keeping out the Atlantic ocean with a broom, as long as a ceaseless tide of children and other living creatures continues

to ebb and flow in and around the infected dwelling. "If the disease is communicable, how can you shut it up with a card? If it is so contagious as you say, why don't it spread through all the houses around?"

The consequence is that the health officers and medical men generally, sink in the estimation of the great majority of the public, which becomes correspondingly callous and indifferent to the well-considered and certain utterances of the same authorities in other matters, about which there can be no difference of opinion. This point reached, the officials cease to control the course of events; they become simply the dust of the whirlwind. When the health commissioner is mentioned in connection with scarlet fever, the common people laugh, and say, "Oh, yes, he had to do something to earn his money, and probably he couldn't think of anything else but to stick up his card around the city." Such trifling with sacred matters is to be regretted, and its occasion should not be lightly afforded.

One more class remains to be considered—the small shopkeepers and other people who live in the houses where they toil for their daily bread. This is the class to which the great majority of physicians belong, and it therefore forms the portion of the community for which our sympathies should always be most easily aroused.

By this class of people the matter of placards is regarded not merely with disgust or derision, but with absolute terror. For such a person a scarlet fever notice means loss of business, loss of income—very likely, ruin itself. Just consider what might happen to any physician for example. Scarlet fever in the family, a placard on the door for six weeks or two months —longer even, perhaps. The doctor has not been more fortunate than his fellows in the profession. In the best of times he can hardly make the two ends meet, there are so many little mouths in the nursery upstairs. And now comes sickness, and that terrible notice on the door, warning people to beware of that house, to avoid its inhabitants, to keep them far from the rest of mankind for no one knows how long. That means a forced contribution of two hundred, five hundred, or a thous-

and dollars, taken from the pocket of a brother mortal who had hardly the where-withal to keep soul and body together in the best of times. Is this right? Surely not without some most serious cause for such conduct. Is it necessary? Let us see.

I once had scarlet fever in my own family, and that, too, when I lived in a little bandbox of a house where the isolation of the sick could only be of the most imperfect character. I saw the opportunity for an experiment, and I performed it without hesitation. Taking no other precautions but those suggested by the ordinary habits of personal cleanliness, I went about my work as usual. My practice was excellent; there were frequent calls from patients at my house, and I was constantly employed. I took pains to watch the families and the people with whom I was thus brought in contact, and in not a single instance did scarlet fever occur among them, nor did any of the ladies whom I attended in confinement manifest the slightest puerperal accident. This experience is by no means uncommon, and is sufficient to prove the gratuitous character of the assumption that scarlet fever necessarily converts a house into a centre of infection which must be shunned like a plague-spot. The successful results of confining the disease to a single room by isolation of the patient, show that an entire building need not be considered dangerous because there is scarlet fever in some portion of the edifice. Consequently, when the disease appears in a family under such circumstances, the board of health, instead of doing its best to ruin them financially, should bend its efforts to the work of showing the unfortunate parties how to make themselves as harmless as possible by the use of disinfection, and by the seclusion of the sick away from the portion of the house which is used for the transaction of business. It is not right to insist upon measures which will deprive a man of his livelihood, on the ground that it is for the good of the public, unless that public is willing to take in addition the only step consistent with justice, and to assume the support of that man as long as he submits to the infliction. "But," say the advocates of the crimson-card, "would you not place a card upon houses in which there is small-pox, and is it not as necessary

in scarlet fever as in small-pox?" Certainly, I reply, I would placard a small-pox case, because there is no degree of parallelism between the two diseases. Small-pox is a disease which can easily be prevented. In a civilized community it only occurs as the result of ignorance or carelessness,—two vices which merit all the punishment which can grow out of the disease and the isolation which it entails. Small-pox, moreover, is caused by a rather volatile poison which impregnates an entire dwelling, and a considerable atmospheric zone around it. But such is not the case with scarlet fever. Only a limited sphere is occupied by its infection, so that a house is by no means necessarily to be avoided because it may in some apartment contain scarlet fever. The disease is, also, one that cannot be prevented by any known measure, like vaccination, which is within the reach of every one. Families afflicted with scarlet fever, are therefore to be regarded with sympathy and compassion instead of being made the objects of punitive measures. And since the disease is only seldom dangerous to life, it cannot be worth while to attempt on its account to revive in the community the horrors of isolation and desertion which before the days of vaccination made an epidemic of small-pox such a terror to mankind. It is the dread of such isolation which causes much of the repugnance which people feel in connection with these obnoxious placards. Already, the first question is, "Must we have a card on the house?" Already I have been forewarned that if scarlet fever should invade such and such families, their choice of a physician would be determined by his conduct in the matter of reporting scarlet fever to the health office. Already there is in many quarters a reluctance to call in medical aid, for fear of the inevitable red card. More than once I have been consulted at my office about patients for whom a visit was not desired, but which I had reason to suspect were cases of scarlet fever. And this is only the beginning of the storm of dissatisfaction which is gathering, yet so enamored are the officials with their little two-penny game of cards, that I am told they will even fly at a case of measles, and cover it all over with pasteboard. This is certainly the *reductio ad absurdum* of the whole thing.

Nevertheless, all these inflictions might be justified, and might be tolerated by a long-suffering public, if it could be shown that they accomplished a single good result. On the contrary, there is not the slightest evidence of any value to show that the progress of the epidemic has been in the smallest degree affected by these odious notices. They have only served to irritate the public and to annoy physicians. This is the principal cause which has operated to prevent the health officers from getting full returns from the epidemic, so that one of the finest opportunities for the study of the disease has been only partially improved. The officials have thus by their conduct laid themselves open to the charge of being urgent about trifles, and of being negligent in matters of real importance. The rank and file of the profession are dependent upon the good will of their patrons, and they cannot afford to take sides in behalf of a measure which is both unpopular and useless. Consequently, I find everywhere great caution in the matter of diagnosis. The prudent physician makes a second visit before he communicates with the board of health. In doubtful cases, the patient gets the benefit of the doubt. Harmless rashes are of more frequent occurrence. Even the most enthusiastic admirers of the placard confess to having cases of roseola and the like which they do not report at the health office. We are all familiar with the fact that certain physicians always magnify their cases. Under their care tonsillitis becomes diphtheria, while intestinal catarrh assumes the dangerous form of Asiatic cholera. But now the tendency is all the other way; the endeavor is to minimize everything which looks like scarlet fever, so that it really begins to seem as if the current epidemic would finally resolve itself into a fiery cloud of red-gum and prickly heat. In point of fact, so far as any good result is concerned, the whole matter of placarding scarlet fever is, to use the words of one of our oldest, wisest, and best known physicians, *mere boyish play.*

In all these criticisms, however, I do not wish to reflect injuriously upon the worthy gentlemen who discharge the duties of the health office. They have honestly attempted to

carry out the recommendations of the committee of physicians. They have had the courage to undertake the performance of an exceedingly unpopular experiment, and we should blame not them, but the feather-heads who originated the device. Our commissioner of health has displayed a laudable courage, and it is not too much to hope that he will also display an equally laudable discretion. A little patience, a little ingenuity, a little study of human nature, will accomplish far more good results than can ever be secured by harassing the profession and the public with law-suits and fines. We are too apt to admire the resort to force as a remedy for evils which we have not wit enough to control. Just as it is the most natural thing in the world for a cheerful doctor of divinity, surrounded by a fashionable congregation, to insist that the law should compel every citizen to pass his Sundays in a clean shirt, with a pitcher of cold water at his elbow, and a copy of the *Northwestern Christian Advocate* in his hand, —so it is exceedingly easy for a comfortable official, meditating in the seclusion of a governmental bureau, to think that everybody ought to overcome his natural feelings, and to submit without a murmur to any new-fangled experiment which certain hard-hearted doctors may see fit to try upon him. People who have been accustomed to ecclesiastical or military methods of administration will readily fall in with this way of thinking. But by the mass of mankind such methods have always been justly deemed vexatious, ineffectual, intolerable. If anything be true of our American institutions, it is their foundation in an abiding protest against priestcraft and military domination. No methods of procedure which ignore this fact can for a moment stand in the face of public opinion. Hence it behooves our servants if they are wise, to find out where they stand, and to BEWARE, lest they bury themselves deeper than the ninth hell of the Inferno.

THE LIMITS OF THE OPTICAL CAPACITY OF THE MICROSCOPE.

By Lester Curtis, M. D., Chicago.

Two papers, one written by Professor Abbe, of Jena, and the other by the well known Professor Helmholtz, on the limits, beyond which, from the nature of light, it is impossible to carry the magnifying power of the microscope, with any profit, are at present attracting considerable attention among those interested in the use of the instrument. It has been suggested to me, that a condensed statement of the results arrived at by these investigators, might be of interest to those readers of the Medical Journal and Examiner who might not have access to the original papers.

The first difficulty that stands in the way of a very great amplification of an object, is the difficulty of obtaining sufficient illumination to render it clearly visible. The opening through which the object is viewed in a microscope, diminishes just in proportion to the magnifying power. The size of this apparent aperture has nothing to do with the size of any of the glasses of the microscope, and only varies with the changes in the magnifying power of the instrument; it makes no difference in what way this magnifying power is obtained, whether by the use of higher-power objectives, or higher eye-pieces, or by lengthening the tube of the instrument. The only circumstance that modifies the size of this orifice, is what is called the angular aperture of the objective, an objective of a small angle having a smaller field than an objective of a large angle. The size of this orifice can be seen by arranging the microscope as for an ordinary observation, and then removing the eye a short distance from the eye-piece and looking down it. One who has never tried it before, will be surprised at the exceeding minuteness of the orifice through which the object seems to

be seen. As long as this orifice is no smaller than the pupil of the eye, the image seen in the microscope suffers no loss of brightness by its increased magnification; when, however, the orifice through which the object is viewed becomes smaller than the pupil, the image seen loses in brightness.

Supposing the diameter of the pupil to be about 1-12 of an inch, and the objective to have an aperture of 180 degrees, the amplification, to be equal to the pupil, would be 166.7.

The brightness of the image, as the magnifying power increases, diminishes in the following ratio:

For	an	amplification	of	166.7,	brightness	1.
"	"	"	"	333.3,	"	1-4.
"	"	"	"	500.0,	"	1-9.
"	"	"	"	666.7,	"	1-16.

It will be easily seen that for the very great magnifying powers sometimes used, there must be a great diminution of the brightness of the image, notwithstanding the appliances that are used to increase the light; and finally there must be a limit beyond which the amplification can not go, from the fact that the image will be so dim as to prevent its structure being made out.

Along with this decrease in the size of the beam of light admitted to the eye, is another difficulty, and that is the production of shadows within the eye itself. It is well known that if a narrow beam of bright light is admitted to the eye in a direction somewhat oblique to its axis, that the shadows of the retinal vessels can be seen. Now, in the case of an observer who is examining an object highly magnified, a narrow beam of light passes into the eye, and the shadows of the retinal vessels thus produced, and appearing as a veil over the object, must, as a matter of course, impair the clearness with which it is seen.

There is still another difficulty connected with this same diminution of the orifice through which a highly magnified object is seen, and that is diffraction. We are all aware that if we look across the edge of a screen at any brightly illuminated object, there appears a narrow shadowy fringe along the edge of the screen. This fringe is called diffraction, and is always

found where light passes by the border of any object. If we place two edges so closely together that these diffraction fringes overlap, and look at any bright object through the opening, we shall observe a great impairment in the clearness with which it is seen. A convenient experiment is to make a small hole in a card, which is thick enough to be quite opaque; or to scratch a fine line on a piece of glass which has been covered with some black varnish, or covered with turpentine and smoked; and then to look through the hole at a printed page, upon which a strong light has been thrown; it will be seen that the letters which were to be seen with the greatest ease before, can now be scarcely read at all. The smallest aperture through which an object can be seen, without an overlapping of these diffraction fringes, and a consequent impairment of the image, is about one-twelfth of an inch. As we diminish the orifice, the details of the object become more indistinct. Now this diffraction occurs around the edges of the orifice, through which we look at images in a microscpe, in exactly the same manner that it does around the edges of the orifice in the card, through which we looked at the letters of our book, and when we come to the higher magnifying powers, the orifice becomes exceedingly small. Supposing that the angular aperture of the glass is 180 degrees, the orifice through which we look when the object is magnified 1000 diameters is 1-50th of an inch, for 5000 diameters it is 1-250th of an inch. The impairment in the clearness of an image, seen through such holes can easily be learned by trying the experiment of looking at the flame of a lamp through a hole of that size.

Another and more serious difficulty yet remains to be considered, and that is the modification which the light undergoes in passing through the object before it reaches the microscope. If the details of an object examined with the microscope, are not less than 1-750th of an inch apart, the image of the object is seen in exactly the same way in a microscope that one would be in a telescope, and the image seen can be relied upon as being an accurate representation of the object; but, if these structures approach closer than this distance, a certain part of the light suffers a change by diffraction, just as the light pass-

ing through the small hole suffers diffraction. When the details of the structure approach to within the 1-2500 of an inch of each other, all the light passing through the object becomes diffracted. In this case its direction is changed, and in place of passing directly through the object, the light is spread out into a fan shape, as it would be by a series of minute prisms.

If now we focus the microscope upon such an object as for instance a series of fine lines ruled on glass, and then take out the eye-piece and look down the tube of the instrument, we shall see in the centre of the object-glass, an image of the object. If the lines are no finer than 1-750 of an inch apart, we shall see nothing else than a true image of the object, but as the lines grow finer, we shall begin to see colored spectral images on each side of the true image, one color after another appearing, as the lines grow finer, and when the lines reach a fineness of 1-2500 of an inch, we shall have a complete series of spectral images extending to the right and left of the true image, beginning with the violet nearest to the true image and extending to the red farthest away. The distance of these spectral images from each other and from the true image, varies inversely, as the fineness of the lines; if the lines are not very fine the colored spectral images will be close together, and the finer the lines the farther apart will be the spectral images. If now we take out the eye-piece and put a diaphragm down the tube of the microscope, just behind the object-glass, which cuts off a portion of these spectral images, and replacing the eye-piece examine the object, we shall begin to lose in the clearness of the appearance of the image. If we put in a series or diaphragms which cut off one after another of the spectral images, some of the details disappear with each one of the spectral images which is cut off, and when the diaphragm is small enough to cut off all the spectral images, all the details disappear and the structure appears a blank. It is necessary, therefore, in order to make out any of the details of an object, that at least one spectral image shall enter the object-glass with the true image, and, if the object-glass has not angular aperture enough to take in these two images, no structure can be seen, however great the magnifying power that may be employed. The

value of angular aperture is not, therefore, that it allows great obliquity of light to be used, which causes light and shadow, and so shows surface markings, but because it enables the objective to take in these spectral images, which are caused by the most intimate structure of the object. Another conclusion from this is, that when the details of an object are so fine as to cause a dispersion too great to be taken in by any object-glass, the limit of possible vision is reached. This limit for an objective of 180 degrees of angular aperture, used with light, whose direction is very oblique to the axis of the instrument, is equal to one-half the length of a wave of light. With the use of the ordinary mixed white daylight, this limit would be 1-92000 of an inch. By the use of blue light alone, this distance might be reduced to 1-122000 of an inch, which is the size of the smallest object that can, under any circumstances, be seen by a microscope theoretically perfect.

There are some other points that may be brought out by the use of these diaphragms. By cutting off some of the spectral images, intermediate between the true image and the outer spectral images, the lines can be apparently doubled or quadrupled in number. In objects marked with lines crossing each other at various inclinations, many different appearances, all apparently clearly defined, can be produced by cutting off some of the spectral images, by diaphragms of various kinds.

According to these investigators, therefore, we have already reached the limit of the magnifying power of the microscope; no microscope can ever be made which will give a useful magnifying power greater than some now in use; indeed, Professor Abbe thinks that a magnifying power of seven or eight hundred diameters is all that can ever be used with profit.

Nobert's lines ruled upon glass at a distance of 1-112000 of an inch apart, have been seen, and that is as near the theoretical limit as we can ever expect to attain.

Finally, according to these investigations, we must revise the opinions we have had in regard to the details of the structure of many minute microscopic objects, and confess that there is no certainty that the image of them which we see in the microscope represents their structure truthfully.

It may be well to mention, however, that in one or two well authenticated instances, objects appear to have been seen finer than the limits considered possible by this theory.

Clinical Reports.

RUSH MEDICAL COLLEGE CLINIC.

Services of Prof. Moses Gunn.

(Reported by Edmund M. Landis, M.D.)

Fibroid Tumor in the Neck.

Julius O., German, aged 45, agent. The patient, a large muscular man whose previous health has been good, first noticed about six years ago, a small swelling in his neck, which has steadily grown invading the pharynx, interfering with deglutition, and embarrassing his speech. Does not remember when it first involved the throat. Has no pain, except on the top of the head. No hereditary taint. The patient's health has failed of late, as the trouble he has in swallowing prevents him from taking proper nourishment. Rests poorly.

On examination, find that the tumor projects more into the throat than externally. Suffocation is prevented by the connection of the tumor with the hard, and unyielding parts outside. The impression is that we have a fibroid tumor, on account of its age, and because in their later histories, malignant tumors in this locality usually run a more rapid course. Extirpation impossible, as the dissection would include the large vessels and important nerves of the neck. The question of a partial extirpation, in order to prevent suffocation, may present itself at a later period. Do not advise an operation, except in that event.

Extensive Necrosis.

Ed., Irish, aged 9½, a poorly nourished lad, who caught cold while skating, in January last, and came into the house com-

plaining of being sick, when he was taken with fever, attended with great pain and swelling in the feet and limbs. He was supposed to have inflammatory rheumatism.

After being sick two months, the swelling in the right foot terminated in two openings, one on the inner aspect near the ankle, and the other over the metatarsal bones. Since then other openings have appeared, as follows: one on the left femur, near the condyles, and one on the right tibia, just below the patella. There is a small abscess, pointing over the left ankle.

Examination shows that the right knee joint is anchylosed at a right angle. On probing the sinuses, find that but one leads to dead bone.

This case presents an opportunity for studying the disease in its first stages; the previous cases before the clinic have generally been old ones, which, as the ophthalmologists say of cataracts, were fully "ripe." In necrosis the term "ripe" means that the diseased bone is detached, and, possibly, covered with new bone.

This boy, from unusual exercise, became heated and fatigued to such an extent, that he was rendered extremely liable to the effects of a cold, and consequently to take on inflammatory action. The case was more asthenic in its character than usual, having existed two months before an opening from suppuration appeared. On probing the different sinuses, find but one piece of dead bone, the other points of diseases not being so far advanced.

The bone not being ready for removal, advise that the child be allowed to wait two months, when it is thought that his case will be ready for an operation.

In the meantime his health is to be improved by generous diet, and cod liver oil.

Malignant Tumor in the Neck.

John C., Irish, aged 33, laborer. The patient, a robust, healthy man, who had not been injured, noticed about three months ago, a small tumor of the size of a hickory nut in the

tissues of the left side of the neck at the angle of the jaw. Could then distinguish its borders. It increased in three days without discomfort to its present size, (three or four inches in diameter.) Suffers pain only at the top of the head.

On examination, find that the tumor projects considerably into the throat. The tumor was aspirated last week by Dr. Walter Hay, with negative result. On probing several times with the exploring needle, which was finally carried into the center of the softest part, a drop or two of purulent matter was obtained. Another introduction of the needle was not so successful. From this think that there is a reasonable hope of the growth suppurating, and thus terminating.

A large poultice to be applied, which is to be kept constantly warm and moist.

April 21st. The tumor has increased in size, and is rapidly progressing, and the patient's health failing.

On examination, cannot get the fingers into the throat as before, and find that the patient has difficulty in opening the mouth. On introducing the exploring needle into a soft spot, obtain only blood. The rapidity of its growth, its semi-fluctuation, the absence of suppuration, and the failing strength, lead to the supposition that it is a malignant infiltration.

It is not a case for operative relief.

Chronic Synovitis.

Mr. D. S. B. American, aged 53, commercial traveler. The patient, who is a large, well-nourished man, sprained his left knee over thirty-eight years ago, after which the knee became painful and would occasionally swell, though its use was not materially interfered with. Sometime afterwards he went to New York and was treated by Dr. Parker for synovitis, who kept him confined to his bed for a year and a half; he was probably cured, as he then went into the army and served three years. Towards the close of the service he again sprained the knee, from which time the present difficulty began. In August of 1870, a swelling or abscess formed on the side of the knee,

which opened, discharging pus and synovial fluid. Since then the knee has swelled and opened on four different occasions.

On examination, find the knee painful on pressure, somewhat enlarged, and the joint apparently anchylosed.

This case shows the persistency of these knee joint affections. Just what the condition of the cartilages of the joint cannot be said. Have seen cases where the cartilages of the joint were completely degenerated and destroyed, that had never opened, but don't think that the same condition exists here, although the disease is evidently in the joint.

The limb and knee are too good for an operation, so advise the imitation of nature by immobilizing the joint, and recommend a leather splint for that purpose.

Extract from Notes of Obstetric Practice in the Chicago Hospital for women and Children since its Opening, May 8th, 1865, to May 8th, 1877.

In charge of Mary H. Thompson, M. D.

The notes of 631 obstetric cases are obtained from what is left of the records after the "Great Fire," in 1871, and of those who have been treated since.

Of this number, 378 mothers are noted as multiparæ, and 116 primiparæ; the condition of the remainder is not recorded. The presentations are recorded in 425 cases; *two* were hand and foot; *two* were head and cord; *one* cord and foot; *two* were cord. *Six* were face; *one* breech and hand. *Six* were breech; *four* were foot. *One* was knee; *one* was placenta; *thirty-nine* vertex, and the remainder were simply noted as *head* presentations.

Accidents to women were as follows: *Two* died of septicæmia. *One*, pulmonary consumption. *One*, from a general cellulitis. *One*, from puerperal cellulitis and metritis. *One*, from puerperal metritis. *One*, from shock following turning after woman had been in labor eighteen hours, and membranes ruptured twelve hours. Cord presentation.

There were several cases of septicæmia and recovery which were not recorded.

There were *six* cases of puerperal convulsions. Two died; four recovered. Of those who recovered, two were bled and given chloroform; two took chloroform without venesection. Chloroform was administered to the two patients who died.

Adherent placenta occurred four times. *Severe hemorrhage* occurred *five times*, but never proved fatal. *Prolapsus of bladder* occurred once. *Thrombus of vagina*, as large as fœtal head at term, with spontaneous rupture occurred once. Clots were turned out and the part was compressed by tampon in vagina, and cavity afterward kept disinfected with injections containing carbolic acid. A *tumor* in anterior wall of vagina complicated one labor.

Cystitis came on after labor in one case. *Laceration* of the *cervix uteri* occurred in *two* cases. *Laceration* of the *perineum* complicated *fifteen* cases.

Accidents and injuries to children were as follows: *Fifteen* children were dead previous to labor; *four* died from difficult labor; *two* died of tetanus; *one* of marasmus; *one* from premature birth at six months; *one* from hemorrhage at the base of the umbilical cord; *three* from asphyxia; *two* were accidental.

One child, born at the fifth month, lived over one hour. There were two pairs of twins. One child had an hæmatoma.

The placenta was weighed in a large number of full term cases. The greatest weight was 3 pounds, and the least 3 ounces. The umbilical cord was measured, and the greatest length was four and a half feet; the least, four inches.

Two *knots* were found in one long cord.

It is a rule in this hospital, that the urine of every pregnant woman, who comes in previous to labor, shall be examined for albumen. While it was done in a large majority of cases, it was found but a very few times—not exceeding twelve. It always disappeared with the use of dry cups over the kidneys, repeated every fourth or fifth day, and the administration of the tincture of iron, in ten to fifteen drop doses, and if needed, some saline cathartic.

It was found in large quantities in *three* of the cases of convulsions, but these had been admitted during labor, or but a few hours previously.

Reports of Societies.

THE CONVENTION OF THE ILLINOIS STATE MEDICAL SOCIETY.

The twenty-seventh anniversary meeting of the Illinois State Medical Society was held in the Grand Pacific Hotel on the 15th, 16th and 17th of May. On the morning of the first day, the delegates present were called to order at 10 A.M., by Dr. T. D. Fitch, of Chicago, the President of the Society, who requested Dr. J. H. Hollister to offer prayer.

The chairman of the Committee of Arrangements, Dr. James Nevins Hyde, of Chicago, then made a brief address of welcome, and announced the hours of meeting, the order of business, and several invitations to visit the medical and scientific institutions of the city. Dr. J. L. White, of Bloomington, responded to Dr. Hyde's words of welcome, in appropriate terms.

After some time, which was expended in arranging the hours of hearing reports and papers, the President delivered the annual address, of which the following is a brief synopsis:

He hoped that harmony would prevail during the present session, and that it might close with the feeling on the part of all who had attended that it had been a place where it was good to be. He referred to the advantages arising from organizations as a general thing, and thus educed the advantages which accrued from a society like the present. He thought it the duty of every medical man to connect himself with a medical society. He urged that valedictorians should especially impress this, and showed that even those men who in prosperity ignored societies, in time of trouble and in need of protection, recognized the advantages of them. He showed the good to be derived from societies in matters of mutual

protection, in interchange of knowledge and experience. Much could be gained by connection with such a society, and many problems could be solved by joint labors therein, which could not by individual endeavor. He considered it the duty of every physician to take all means to make himself worthy of his high calling, and, referring to the young students, as a class, declared that scientific knowledge could nowhere be better obtained than by associating with other members of the profession. Reciprocal advantages also accrue both to the young and the old practitioners, the former acquiring the practical knowledge of the latter, and the latter securing the theoretical knowledge of the former. He considered that every medical man in the State should feel it incumbent upon himself to come up to the annual feast of medical knowledge. He referred at some length to the society, its origin, the superior character of its early members, the firm basis upon which the organization had been founded. The social advantages to be derived from such a society were invaluable and incalculable, it being the nature of man to seek fellowship and derive benefit therefrom. He considered the present mode of receiving members pernicious. Many persons were elected who never attended the meetings; who were appointed to committees which never made reports; who never paid their dues—which he considered a sacred duty. He maintained that the membership of any person behind in his dues should not be perpetuated beyond two years. The relations of the society towards other similar societies were amicable and pleasant, and the society was treated with deference everywhere. The mechanical management of the society he considered excellent. He referred to the innovation which had been introduced by the appointment of Mrs. Sarah Hackett Stevenson as a delegate to the American Medical Association at Philadelphia, which had been brought about by himself and the late Dr. Freer. He considered that women, whenever competent, should be admitted to membership and representation, and considered that this society had cause to congratulate itself upon having sent the first lady delegate to the general association.

But the angel of death had not stayed its hand during the year; and among those of the society whom it had snatched away, he wished to mention Dr. J. W. Freer, and Dr. G. G. Goll, both of this city. With the former he had had personal acquaintance, but, sparing his own words, would read the obituary notice which appeared shortly after the death of the departed, and gave a somewhat extended résumé of the life of the departed. He declared the deceased to have been a man of clear judgment, noble and upright in his private and professional life. Such men add dignity to the profession which they represent.

Dr. Fitch read the resolutions which were passed relative to the death of Dr. Freer by the medical profession of the city of Chicago.

In referring to Dr. Goll, the speaker declared him to have been a young man of fair talent and bright prospects.

He concluded with thanking the society for the honor conferred upon him in being appointed to the Presidency, and expressed the hope that the lamp of the organization should continue to burn.

Upon motion of Dr. E. Ingals, it was decided that the President's address should be accepted and published.

After the transaction of unimportant routine business, the meeting adjourned till half-past 2 o'clock.

At 2½ P. M., Dr. E. W. Gray, of Bloomington, presented the Report of the Committee on the State Board of Health, together with the petition for the establishment of the same, and the bill as originally prepared. The amendments made in the bill, both as to the powers of the proposed board and the appropriaion asked for, were also stated. The report was accepted and referred for publication.

Dr. N. S. Read, of Chandlerville, Chairman of the Committee on Practical Medicine, then presented his report, Dr. E. F. Ingals also reading a supplementary paper.

Dr. E. Andrews, of Chicago, then, by permission, exhibited a patient, a little girl eight years of age, affected with empyema, in whose case paracentesis had been performed. By attaching a tube of a fountain syringe to the drainage tube

inserted, the left thoracic cavity was thoroughly washed out with a carbolated solution.

Dr. I. P. Walker, of Mason County, read a short paper, following this, in connection with the Report on Practical Medicine. The discussion of the entire subject was conducted by Drs. C. M. Fitch, D. S. Jenks, J. S. Whitmire, J. S. Jewell and others.

Dr. J. L. White, of Bloomington, then read the Report on Surgery, of which the following is a synopsis:

The Chairman of this Section confined himself to concise reports of somewhat unusual cases occurring in his own practice and that of neighboring surgeons, and comments of a practical nature, upon the same. He first reported a case of dislocation of the femur, of eleven weeks standing successfully reduced. Also, two cases alike successful, of dislocation of the humerus, of two years duration. From these cases, was urged the importance and propriety of attempting the reduction of dislocations generally, after a much longer time has elapsed than is laid down in standard surgical works as justifiable. He then gave the history of some cases known to him, in which there was in some complete, and in some partial, anchylosis of the elbow joint, going to show the superior advantages of a nearly straight position of the arm over one bent at right angles, and urged the importance of considering the avocation of a patient in dressing the injuries of this joint, when anchylosis was liable to result. A case of severe injury to hand and arm was reported, in which good results were obtained, by keeping the parts for some weeks submerged in hot water, and the advantages of this method of treatment, illustrated and urged upon the profession. The question of gastrotomy was discussed in reference to cases of intussusception, and cases remarked upon where this had been successful. Also some general remarks upon the comparative safety of opening into the peritoneal cavity, taking the ground that the fatal results following this operation have generally been the result of septicæmic poisoning rather than tissue inflammation.

He reported cases of embolism, in which limbs had died from the plugging of the femoral artery, and suggested the

importance of great care in the changing of much enfeebled persons from a recumbent to an erect position. The question of fractures was discussed, and the almost inevitable consequent shortening insisted upon, taking the ground that any unusual attempt to prevent this by excessive extension was liable to be followed by non-union of the fractured bone. In this connection, the profession were reminded of their duty to one another, in regard to giving currency to the idea that no shortening or deformity ought to be the result of fractures. The general use of patent splints and appliances was rather discouraged than recommended. A very interesting and instructive case was reported of death resultiug from the use of Esmarch's bandage, and the necessity for the employment of the greatest care and caution in its use, insisted upon. The fatal result in this case was apparently due to the powerful impression made upon the cutaneous nerves, amounting to paralysis. Cases were reported, showing a condition of the system frequently to exist, in which there was no disposition for a wound or injury to heal, cases in which the blood seems to be devoid of its normal plastic properties, and for the relief of which iron is demanded, and in which its use should be perseveringly and persistently employed. The importance of antiseptics in all surgical dressings was insisted upon, and the free exit to all purulent accumulations, in contact with absorbing surfaces. In this connection, the question of dressing stumps, after amputation open, without either sutures or adhesive straps was discussed, and in a general way, approved, though not distinctly recommended. The great superiority of ether over chloroform, on account of its comparative safety, was urged, and the hope expressed that some safe agent might be discovered with which it could be combined, rendering it more prompt in its action, and more easy of administration. Torsion of arteries was claimed to be far preferable to any ligature, when appropriate, and it was insisted that in a great majority of instances it would accomplish all that was required. A photograph, exhibiting the practical working of skin grafting was shown in connection with the report of a case, where great benefit was derived from its employment.

On the morning of the second day, Dr. C. T. Wilbur, of Jacksonville, read an interesting paper on Idiocy. The author said that nearly or quite one-third of the patients admitted to the asylum at Jacksonville, in the course of a very few years were so far recovered as to be permitted to go at liberty and care for themselves. Many, of course, were hopelessly incurable, there being no basis to work on in consequence of mental deficiency. The proportion of the whole number of patients admitted to the institution who were incurable was quite small. It was his opinion that idiots should be treated apart from other patients. They should be kept excluded from lunatics and paupers, as the disturbing influences which surrounded these persons were very harmful. The simpler the lesson and the kindlier the treatment of these patients, the sooner good results will be developed. A thorough industrial training was also indispensable. The work should be light, and never forced upon the patient. The author thought there was as much difference between the trained and untrained idiot, as between the civilized man and the savage. Idiots required at all times kind, gentle treatment, no matter what might be their actions. They were as helpless, mentally, as children, and the same treatment given the child was requisite for the feeble-minded.

The report was received.

Dr. Plym. S. Hayes then read a report on Electro-Therapeutics, setting forth his own experiments with various instruments, and giving details of several cases in which the therapeutic value of this agency was demonstrable.

Dr. E. M. Griffith, of Springfield, next presented the Report of the Committee of Drugs and Medicines. He laid special stress on the necessity to the profession of great care in the use of medicines, not alone for the preservation of their own reputation but the health, and perhaps life, of their patients. There was no legislation in Illinois preventing quackery. This was unfortunate. The manufacture of inferior and worthless medicines was entirely too common, and a stop should be put to it. There should be some means of preventing ignorant and unskilled men from flooding the market with spuri-

ous nostrums. The history of drugs, and the uses and properties of many, were carefully and intelligently reviewed, and the metric system of weights condemned as worthless in the measurement of drugs.

The report was referred to the committee on publication.

Dr. N. S. Davis denounced the practice of countenancing the use of proprietary medicines and the foisting upon the profession of ready-made, worthless, impure prescriptions. So great was his antipathy to patent-medicine men, and to the agents of those popular remedies, that he declared he had refused in his medical journal to advertise such medicines. All that the profession wanted was, that the pharmacist should fill its prescriptions, and not seek to impose on it these ready-made prescriptions. The druggist and the pharmacist had a standard that the profession agreed to as the officinal standard of strength and purity of drugs, and every druggist that dispenses medicine should be held responsible for dispensing it according to that standard, and every physician should direct exactly what combinations he wanted for his individual patients. He thought, in conclusion, it would be a good plan to have the Committee on Drugs and Medicines institute experimental inquiries into the nature of existing drugs, with special reference to pruning the materia medica, or at least of reducing the present vague and indefinite knowledge on this subject to a more exact appreciation of what each medicine could do.

Dr. Jewell said that there was still no scientific method for the treatment of hydrophobia, although it had been confidently hoped of late that one was about to be discovered. The doctor called attention to the importance of the subject of the therapeutics of Rest and Position, and made a promise to contribute something on this subject at the next annual meeting.

Dr. A. Hard, of Aurora, spoke of oxygen gas as valuable in therapeutics.

Dr. J. S. Whitmire, of Metamora, related a case that had been reported to him where the excessive use of chloral to produce sleep had rendered the persons who used it insane. Opium was substituted for a time, and a recovery was apparent in three or four weeks.

Dr. W. L. Ransom, of Roscoe, another member of the Committee on Drugs and Medicine, read an interesting paper on Apocynum Cannabinum, and directed special attention to its value as a diuretic.

Dr. N. S. Davis followed with some remarks on the same subject. He had found the Apocynum Cannabinum a valuable remedy in dropsy from diseases of the kidneys. It acted as a sedative, and, when properly used, was exceedingly valuable as a remedy in all such diseases.

Dr. Johnson, of this city, spoke of the successful employment of Indian Hemp in Bright's disease of the kidneys.

Dr. Bartlett said the root alone of the Indian Hemp was efficacious.

Dr. J. L. White, of the Board of Censors, reported the case of Dr. Barnett, who had made and subsequently withdrawn certain charges against the Macoupin County Society. It appeared from the evidence that he had associated himself with an irregular physician in that county. The County Society expelled the said Barnett, and the latter preferred charges against the Society. The Board of Censors was of the opinion that expulsion from a local society should work expulsion from the State Medical Society. The Board recommended the admission of the following applicants for membership: Drs. Ransom Dexter, S. O. Richey, T. J. Bluthardt, W. Godfrey Dyas, A. H. Foster, Chicago; C. H. Lovewell, Englewood; C. S. Taylor, Rockton; C. N. Cooper, Batavia. The report was adopted.

A report was made by Dr. Charles W. Earle, from the committee on Diseases of Children.

The burden of the report referred to the scarlatina epidemic prevalent in Chicago during 1876-'7. Speaking of the early mortality from scarlatina, he stated that the disease had been epidemic in this city since 1851, the years 1858, '59, '62, '63, and '69 being marked by severe epidemics. The doctor said the epidemic which raged last October had not been as severe as malignant as had been represented. He did not think there was any lack of material to form a malignant epidemic, and with the utter indifference of the profession and the want

of knowledge among the people of the alarming contagiousness of the disease, with the daily papers filled with communications promising immunity if certain medicines were used, he only wondered that our mortality had not been by thousands instead of by hundreds.

Taking as a basis for calculation nearly one hundred reports he had received from physicians, he estimated the entire number of scarlatinous cases as 14,170 during the last sixteen months—the number of deaths being 1,191, or 8½ per cent. Any epidemic with a mortality of less than 10 per cent. was considered very mild, and he cited several epidemics in other countries with 25, 30, and one with a death-rate of 40 per cent.

Tables showing the number of children under the age of sixteen years were given in each ward of the city. In the Fourteenth ward, there are over twenty thousand, and in the entire city, over one hundred and fifty-two thousand, sixty-three thousand of whom were in public and private schools.

At the opening of the schools last year, it was estimated that there were one hundred and fifty infected points. Notwithstanding the favorable condition for the spread of the disease in the schools, only one in every one hundred and twenty-eight persons had died from the disease.

The doctor discussed each ward at some length, giving the sanitary condition of each, deaths from the disease, proportion to population, etc.

In conclusion the speaker said a report of the kind he presented would not be complete without saying something in regard to preventive medicine. Belladonna was discussed fully, both the claims for and against its use being given. He concluded that the general experience in the use of this article had not increased its reputation. The history of carbolate of sodium was given, and the results of its use in the city, presented. In some ninety cases where it had been given to prevent the disease, forty-eight had been affected with scarlet fever.

The report was received, and the society tendered its thanks to the reporter.

The name of L. R. Williams was proposed for membership and referred.

The society then took a recess until 2:30 P. M.

At 2:30 o'clock the convention reassembled in the club-room adjoining the rotunda, and the transaction of business was resumed.

The president called the meeting to order, and asked for the report of the nominating committee. In response, Dr. Earle read the names which were approved.

Dr. J. H. Hollister then read a report on Dietetics and Hygiene of Children.

The doctor divided the report as follows: The subject of infant and childhood mortality. The causes which conspire to this result; viz., Paternal influences, congenital malformations and weaknesses, unhealthy surroundings, contagious diseases, improper clothing and erroneous diet. General observations upon diet, with a variety of formulæ where alien food is needed. Nursery rules for the care and feeding of infants.

The author of the paper said it was with the first of these points he would mainly have to do. Infancy, as the term implies, is that period in which a human being is without a language, and though is may not yet be able to articulate its mother tongue, it has a language that no human heart can fail to understand. It is truly the period of utter helplessness, and yet it has the power to command the purest and the strongest of human agencies. This period of infancy, the period of most delicate development and the embodiment of weakness, is, nevertheless, the period of most intense vital activities and physical changes, and it is during this period that life is imperiled as in no other, and thus we find that one-tenth of the human race die before they are one month old, and more than one-half of the human family before the age of five years. The tables of both England and the Continent confirm this fact as regards the old world, and the same is true of this country as well. We are not able to give as exact data for the country at large, but in the populous cities, where statistics are complete and reliable, the same fact obtains. For example,

in New York city, 26 per cent. of the deaths are those of children under one year old, and 53 per cent. die less than five years old.

In Chicago the statistics are as follows:

Total number of deaths reported during the year 1876,	8,573
Died under one year,	2,694
Those under two years,	1,038
Those under three years,	518
Those under four years,	396
Those under five years,	245
Total, under five years,	4,891

The per cent. of the entire mortality being 57.

The speaker said these figures were enough to appall the strongest heart. They not only point to the untold sufferings that went out with these lives, from pain endured, but they remind us of the aching hearts and beclouded homes which have been on every side of us during the past year. The voices of philanthropy and of pity not only ask, "Must this be?" but the economist inquires as well.

These reflections led the speaker to the consideration of the causes which produce such fearful fatality. Some of the cases were obviously beyond the agency of human skill, and while they swell the death rate are not amenable to treatment. Such, for example, are the congenital malformations of infants; such as hydrocephalus and acephalous affections, spina bifida, cyanosis, cardiac, and pulmonary lesions; malformations of the secretory and digestive organs, and failures of development of almost an endless variety.

Hereditary taints are apt to manifest themselves early, and many times these baffle the best directed efforts.

Inherent weakness at birth is a most fruitful sourse of fatality. The feeble development of the organism is often entirely unequal to the wants of life, and in the unequal struggle it yields that life. A like result of feebleness inheres from the very extremes of human condition.

The doctor reviewed the causes of disease and death in children, dwelling upon the necessity of subsisting children

on food of a proper character, holding that nature's food was the only one which should be used in every instance practicable.

Dr. Matthews then read a paper on the subject of reflex phenomena induced by congenital phimosis, illustrated by several cases.

Both Dr. Hollister and Dr. Matthew's reports were received.

A general discussion then ensued on Dr. Earle's report, and those of Drs. Hollister and Matthews.

The committee on nominations retired for the transaction of business.

On motion, a committee of three was appointed to prepare a circular for general circulation, containing suggestions on dietetics and hygiene of children.

Dr. J. L. Hayes, of Paris, presented a report on ophthalmology.

Dr. Jno. Wright presented a paper on Hæmorrhoids, illustrated by cases.

Dr. E. Andrews, of Chicago, then read a paper, setting forth a new method of producing extension and counter-extension in diseases of the ankle-joint, by means of a leathern and laced splint, covering the dorsum of the foot and reaching over the calf of the leg. The principle of the apparatus was simply equal compression of two cones joined at their apices. The paper was illustrated by a plaster model, with the apparatus *in situ*.

Prof. E. L. Holmes read a paper on Foreign Bodies in the Globe of the Eye.

Dr. Richey followed with a paper on Diseases of the Middle Ear in Connection with Nasal and Pharyngeal Inflammation.

The Society then adjourned.

On the morning of the 3d day, Dr. J. Adams Allen, Chairman of the Committee on Necrology, read the report of that committee, including a paper on the career and labors of the late Dr. Freer, of this city.

At the request of the Convention, Dr. Allen also read a report of the autopsy in Dr. Freer's case, which, with the

committee report, was referred to the Committee on Publication.

Dr. Worrell asked leave to make a slight contribution to the necrological report, and the same was, on motion, added.

The order of exercises was, on motion, suspended. The Board of Censors reported favorably to the election of the following gentlemen to membership: Dr. H. Hatch, New Salem; Dr. G. E. Willard, Chicago; Dr. J. H. Bates, Chicago; Dr. L. R. Williams, Chicago. The Board also made the following request: "There being no evidence to sustain charges preferred against the Jersey county Medical Society, we would recommend that the charges be dismissed." The report of the Board was adopted.

The subject of the establishment of a State Medical Institute was presented and discussed at some length. Dr. John H. Hollister, Treasurer of the Society, reported as follows: Balance on hand per last statement, $10.82; cash received at Champaign, $331; cash collected during the year, $222; cash advanced by the treasurer, $62.73; total, $626.55. The disbursements for the year were $626.55 for various objects of the Society. On motion, the report was audited and approved.

The Committee of Publication reported through Dr. N. S. Davis, and the report was accepted.

Dr. Cook, of Mendota, from the Nominating Committee reported the following nominations of office for the ensuing year:

President—J. L. White, of Bloomington.

First Vice-President—E. P. Cook, Mendota.

Second Vice-President—B. M. Griffith, Springfield.

Treasurer—John H. Hollister, Chicago.

Assistant Secretary—H. B. Buck, Springfield.

Permanent Committees—Board of Censors—M. W. Walton, Ridott; E. Ingals, Chicago; and P. H. Barton, Danville. *Practical Medicine*—C. W. Earle, Chicago; D. S. Booth, Sparta; and J. T. Pitner, Jacksonville. *Surgery*—Moses Gunn, Chicago; W. P. Pierce, Lemont; and David Prince, Jacksonville. *Obstetrics*—T. D. Fitch, Chicago; E. R.

Willard, Wilmington; and Ellen Ingersoll, Canton. *Drugs and Medicines*—N. S. Davis, Chicago; E. P. Cook, Mendota; and William E. Quine, Chicago; *Diseases of Children*—C. C. Hunt, Dixon; Harriet Botsford, Chicago; and Lucinda Corr, Carlinville. *Neurology*—H. A. Johnson, Chicago; T. F. Worrell, Bloomington; and Thomas Gault, Rock Island.

Special Committees—Otology—Samuel J. Jones, Chicago. *Neurology*—J. S. Jewell, Chicago. *Ophthalmology*—E. L. Holmes, Chicago. *Electro-Therapeutics*, P. S. Hayes, Chicago; *Malaria*, N. Wright, Chatham. *Fractures of Lower Extremities*—W. L. Goodell, Effingham. *Croup*—H. Z. Gill, Jerseyville. *Throat and Nasal Passages*—J. P. Matthews, Carlinville. *Dysentery*—John Wright, Clinton. *The Chronic and Incurable Insane Poor of Illinois*—R. J. Patterson, Batavia.

Springfield was decided upon as the place of holding the next Convention, and Drs. B. M. Griffith, J. Townsend, and A. A. Patterson, all of that city, were appointed a committee of arrangement. The report was adopted.

Dr. J. S. Jewell, of Chicago, addressed the Convention upon the subject of "The Influence of the Nerves Over Nutrition." Dr. Jewell had spent two years in the investigation of this particular subject, and his paper was appreciated by those present in a vote of thanks.

Dr. S. J. Jones read a paper upon the diseases of the eye and ear, and was thanked by the Convention.

The Convention then passed a vote of thanks to the Committee of Arrangements, the proprietors of the Grand Pacific Hotel, to the local medical societies and members of the profession for entertainment, and to the press.

On motion, Drs. N. S. Davis, E. P. Cook, T. D. Fitch, and Bogue were appointed a committee to revise the constitution and by-laws of the Society.

Dr. C. W. Earle read a preamble and resolution, which recommended that the Chicago Medico-Historical Society be authorized to publish an annual Medical Register of the State of Illinois, agreeably to a resolution of the American Medical

Association. Adopted. Some additional communications were read and accepted.

Delegates were appointed to represent the Society at the several State Conventions next year, and twenty-eight delegates were elected to the American Association for 1878. The retiring President, Dr. T. D. Fitch, then thanked the Convention for the honors conferred upon him and for their attention and courtesy under his Presidency. The Society then adjourned, to meet one year hence at Springfield.

On Wednesday evening the Medical Profession of the city of Chicago, through the agency of the Chicago Medical Society and the Chicago Society of Physicians and Surgeons, entertained the visiting members of the State Society in a banquet at the Grand Pacific hotel.

Reviews and Book Notices.

A Manual of General Pathology for the use of Students and Practitioners of Medicine. By *Ernst Wagner, M. D.*, Professor of General Pathology and Pathological Anatomy in the University of Leipzig, etc. Translated from the sixth German edition by *John Van Duyn, A. M., M. D.*, etc., and *E. C. Seguin, M. D.*, etc. New York: William Wood & Co. 1876.

In no part of the world are the fruits of the German Laboratories more eagerly gathered up, more thoroughly sifted and more generally utilized, than right here in America. Nor is this to be wondered at. We are essentially a utilitarian people, valuing things and ideas according to the measure of their adaptability to our practical wants and necessities. From precisely this utilitarian standpoint do we estimate the value of such books as those of Virchow, Billroth, Rindfleisch, Gluge, and the one before us. The German Medical Schools are in some sort great analytical laboratories; the German mind and mode of thought is essentially analytical;

the German patiently and laboriously picks into pieces whatever comes before him, classifies and carefully labels the component parts, but rarely thinks of re-combining the integers he has dissevered. On the other hand, the American Medical School—so far as it has assumed a distinctive character at all—is synthetical; to build up, improve, utilize and economize is the American idea. How do German books look from this American standpoint?

Wagner's "Manual of Pathology," first issued in Germany in 1862, is now (January, 1876,) for the first time presented in its English dress. It is an event which merits more than a passing notice, especially in view of the intense activity which now prevails, especially on the continent of Europe in every department of pathological research. The general plan of the work is as follows: Part First—General Nosology; Part Second—General Ætiology; Part Third—General Pathological Anatomy and Physiology, and Part Fourth—Pathology of the Blood.

As we are somewhat limited as regards space, we shall pass rapidly over the parts relating to "General Nosology" and "General Ætiology," and devote our attention mainly to the parts treating of "General Pathological Anatomy and Physiology" and the "Pathology of the Blood."

We are pained at the threshhold of this book, to find that the translators have made Prof. Wagner responsible for such a barbarous word as "diagnosed" (page 2); it is hardly fair to make the helpless German professor the father of such an uncouth child.

On the same page we find this general statement; "the disturbances which constitute disease" are: Anatomnico-Pathological, (that is to say histological), or, Chemico-Pathological, or Functional. But with respect to the so-called "functional" diseases, the author makes this most wise observation: "Functional or symptomatic (or dynamical) disorders are those in which we have, as yet, been unable to detect any material lesion. This, for example, is often the case in pain and convulsions. And yet in these conditions we must admit the existence of *delicate material alterations, which are not*

recognizable with our present means of investigations." (Italics are our own). The idea that disorders of function present no material changes, and are therefore destitute of interest to the histologist, ought to be abandoned at once and forever.

Turning to "Part Second," we find a very comprehensive, and, in the main, admirable essay, occupying more than one hundred pages, upon "*General Ætiology.*" It seems to us, however, that the general tone of positiveness which characterizes this part of the work, is scarcely warranted by the existing state of that branch of medical science which relates to the causes of disease. And we are the more surprised at this because the very first sentence of this chapter contains these words; "Ætiology, or the knowledge of the causes of disease, is one of the weakest chapters in pathology"—a statement which every student of pathology is unfortunately compelled to endorse. If there is a single department of medical science concerning which our knowledge is so notably defective as to make it especially prominent on that account, it is the department of Ætiology; hence writers and teachers should exercise a studious caution in the expression of their opinions. But on the other hand, it is very encouraging to witness the great activity now manifested in all parts of the world, in the investigation of the causes of disease. Not very many years hence, it will be "in order" for an author to express his opinions upon this point with some degree of assurance that it amounts to something more than mere guess-work.

Part Third—"General Pathological Anatomy and Physiology" occupies three hundred and sixty nine pages, making something more than half the entire work. We are glad to observe that Prof. Wagner so pointedly recognizes the fact that Physiology and Pathology are most intimately related—that in truth there is no dividing line between them. Those of us who are engaged in teaching Pathology, know only too well how difficult it is to convey to the mind of the student, the idea that there is no abrupt and strongly marked boundary line between health and disease; that the same tissues and the same vital elements are involved, whether the various func-

tions of the economy be carried on healthily (Physiologically) or unhealthily (Pathologically). Indeed, quite too often the first and most difficult duty of the teacher, is to disabuse the mind of the beginner in medical science of the notion that "disease" is a sort of lawless invader—a something entirely *sui generis*, which takes possession of the system and proeeeds to do various acts of violence, unless evicted by some sort of a therapeutical mitralleuse which the physician selects from among his manifold resources, and discharges at the offender. But it is a hopeful sign of progress when text-books—which are generally behind rather than in advance of aggressive professional opinion—take cognizance of the fact that Physiology and Pathology have a common point of departure.

The part of Prof. Wagner's book now under consideration seems to us to possess great value. It is built upon an excellent plan, and the plan is successfully carried out. It is not loaded down with the debris of long-forgotten theories, or water-logged by being forced to carry all the crude and half digested notions which in this age of ceaseless activity must necessarily encumber the precincts of medical science. Good judgment has been exercised both in what is said, and what is left unsaid. We commend this part of the work to the student and young practitioner, because it is in the main worth studying and worth remembering. It is refreshing to find the latest discoveries concerning the circulation in the lymphatic system; the spontaneous movements of the white blood corpuscles, or "leucocytes;" and the origin, function, and destiny of fibrin so clearly and admirably stated. These three questions, (more especially the two last) have been a stumbling block to most teachers of pathology for years past. But Prof. Wagner simply accepts the doctrines which now seem to be established, states them with impartial frankness, and then leaves them to take care of themselves. He does not seem to be hampered by preconceived hobbies, which he feels bound to bolster up by "arguing the case." The present somewhat diverse doctrines concerning inflammation and the origin of pus corpuscles, are clearly and impartially stated. Part fourth—the "Pathology of the Blood"—is the

concluding portion of the work. Its merits are many; its faults are comparatively few. It is impossible for one author to cover so wide a range of subjects as Prof. Wagner attempts to include in his book; moreover, it is equally impossible to crowd into a single volume—unless it be of gigantic proportions—all that ought to be said even in a "Manual" of "General Pathology;" but our author has probably come as near accomplishing the impossible as any one could.

We do not like the chopped style, or the angular, juiceless sentences with which the book abounds; we detest the small type and closely crowded lines; but the plan of the work renders both a matter of necessity.

The translators have done their work admirably well. It is a rare luxury to find a German work translated into readable English. Many of the German books which have appeared in English dress make a dreadfully stiff and awkward appearance.

Perhaps "Rindfleich's Pathological Histology" wears the most slovenly and ill-fitting English suit of any book yet "translated." It is doubtful if Rindfleisch would recognize his own ideas in the solemn and ghostly garb which they are compelled to wear since we tried to naturalize them. The cheerful and sprightly pages of Flavius Josephus are fascinating—we had almost said side-splitting—in comparison with the monkish austerity of the English edition of that most admirable book, "Rindfleisch's Pathological Histology."

The translation of "Frey's Compendium of Histology" is almost as bad; it is needlessly unreadable and inexcuseably unenjoyable.

We turn with pleasure to the English—or American—edition of "Wagner's Manual;" the translators seem to have done their work with severe accuracy, but they did not forget that their task involved the translation of *ideas* as well as words. We believe Prof. Wagner's work will be widely read in this country; certainly nothing better of its kind is now attainable. I. N. D.

Medical News and Items.

Medical College Graduates of 1877.

Jefferson Medical College, 198; University Medical College, N. Y., 157; Ballou Hospital Medical College, 147; University of Pennsylvania, 121; College of Physicians and Surgeons, N. Y., 118; Rush Medical College, 103; University of Louisville, 80; Ohio Medical College, 80; University of Nashville, 70; Louisville Medical College, 47; Albany Medical College, 38; Chicago Medical College, 37; Hospital Medical College, Louisville, 36; Miami Medical College, 35; University of Buffalo, 31; Detroit Medical College, 30; College of Physicians and Surgeons, Indianapolis, 23; Medical College of Indiana, 22; University of California, 20; Medical College of the Pacific, 20; McGill University, Montreal, 19; Woman's Medical College, Philadelphia, 15; Woman's Medical College, Chicago, 4. A grand total of 1,461 doctors turned out in one year!

Sale vs. Louisville Medical College.—It will be remembered that last fall L. R. Sale, a student of the Louisville Medical College, (Phenomenon) entered suit against that institution for a return of fees paid in, on the ground that the school was not what it was held out to be. The following, from the Louisville Sunday *Argus*, gives the result of the suit:

The suit of L. R. Sale against the Louisville Medical College, which has been hanging fire in the court of Esquire Speed Peay since last November, was finally decided, by a verdict for the plaintiff, last Thursday. Sale sued for the recovery of fees paid to the concern, claiming that the college was not a legally-constituted institution, inasmuch as there had been great irregularity in the election of the board of trustees. He

also made allegations against the efficiency of the school. The court rendered a verdict giving the plaintiff all that he prayed for, thus admitting all the allegations set up by him. This speaks badly for the Louisville Medical College and the Kentucky School of Medicine, (both are the same.) The amount sued for is small, but there is a great question involved in the matter, and that question is, Can the graduates turned out by this school since the election of the present board of trustees (two years ago) be considered diplomated physicians, since the college has been declared not a legally-constituted institution? —*Louisville Med. News.*

THE Nashville Medical College and the Medical Department of the University of Nashville and Vanderbilt University. These two institutions have two graduating courses every twelve months. They have both broken out this year with the same complaint and are engaged in the much disputed proceeding of graduating two sets of classes every year. A summer session in Nashville must be a very warm affair.

THE INDIANA STATE MEDICAL ASSOCIATION held a two days session at Indianapolis on the 15th and 16th ult.

The following are the names of the newly elected officers: President, Dr. L. D. Waterman; Vice-President, Dr. N. P. Howard; Secretary, Dr. G. V. Wollen; Assistant Secretary, Dr. G. W. Burton; Treasurer, Dr. J. C. Walker; Librarian, Dr. J. R. Featherstone.

The annual meeting of The Chicago Medico-Historical Society was held on the evening of April 30.

The officers for the present year are: President, Dr. W. Godfrey Dyas; Vice-President, Dr. E. L. Holmes; Treasurer, Dr. R. G. Bogue; Secretary, Dr. Plym. S. Hayes; Editor, (permanent) Dr. D. W. Graham. Publication Committee:

Drs. John Bartlett, F. C. Hotz and John E. Owens. Diarist, Dr. S. Wickersham.

At the late meeting of the Illinois State Medical Society a resolution was passed requesting and authorizing the Medico-Historical Society to publish an Annual Medical Register of the State, and directing the co-operation of its own officers in preparing the register.

At a late meeting of the Medical Board of Cook County Hospital, Dr. E. Andrews was nominated and recommended for the vacancy on the surgical side of the staff caused by the death of Dr. J. W. Freer. The Board of County Commissioners, however, ignored the nomination, and taking the matter in their own hands appointed Dr. Charles T. Parkes.

Dr. Moses Gunn has recently commenced his first term of service in that Hospital, he having been appointed on the staff several months ago, in a place created by the remodeling of the rules and regulations of the Medical Board.

THE CHICAGO SOCIETY OF PHYSICIANS.—The annual meeting of this society was held Monday evening, May 14. The election for officers resulted as follows: President, Dr. W. H. Byford; Vice-President, Dr. J. H. Etheridge; Secretary and Treasurer, Dr. E. W. Sawyer.

The meetings of the society are held the second and fourth Monday evenings of each month at the Grand Pacific hotel.

MORTALITY IN THE CITY OF CHICAGO FOR THE MONTH ENDING MAY 19TH, 1877.—Total mortality, 581; males, 311; females, 270; under 5 years of age, 286. The principal causes of death were: Apoplexy, 12; croup, 19; scarlatina, 63; meningitis, 29; convulsions, 52; diphtheria, 12; diseases of heart, 13; phthisis pulmonalis, 74; pneumonia, 38. Population, census

1874, 395,400; estimated population, 420,000; number of deaths to every 1,000, total estimated population, 1.38.

O. C. DeWolf, M. D.,
Commissioner of Health.

The members of the medical society of Madison county, Iowa, not wishing to bid against each other for the pauper practice of the county, requested the board of supervisors to make the society, as a body, a proposition for doing the work. The proposition was made and accepted, and the society have undertaken to attend the county patients. The salary received is to be entirely devoted to the establishment of a medical library and reading room. The society hopes to retain the contract for several years, and we hope they may be successful. This is an example which might well be followed by other societies.

The Central Free Dispensary of this city has just received a donation of drugs from Henry Thayer & Co., of Cambridgeport, Mass. We are glad to see this worthy institution aided in its efforts to relieve suffering, for although many of our own merchants have ever been generous to this and similar institutions, the officials, who should at least provide medicines for the sick and destitute, are extremely niggardly with these institutions and do not furnish one quarter of the medicines needed by the thousands who apply for medical aid.

Texas Laws and Medical College Diplomas. The Texas legislature enacted a law last winter, "Regulating the practice of medicine in the State of Texas," providing that all medical men shall be examined by a Board of Examiners, "regardless of their credentials." A letter before us from a Northerner in Texas, a graduate of Rush Medical College, alleges that this law was inspired, and is chaperoned, by medical men of Texas to get, and keep, control of the medical practice of that State.

He appeared before the Board, like a law-abiding citizen, paid the $15 fee exacted, passed his examination, submitted his diploma for inspection, all of which resulted in his receiving through the postoffice "the following characteristic lines: 'We decline to issue to you a certificate of qualification.'" The Doctor claims that the law is a persecution of Northerners, and condemns the high-handed proceeding "as an unwarranted assumption of authority in passing judgment upon the professional qualifications of graduates from properly chartered medical colleges."

THE KENTUCKY STATE MEDICAL SOCIETY AND THE TWO SCHOOLS OF PROF. GAILLARD. At its recent annual meeting in Louisville, the largest meeting ever held by this society, the following resolutions were unanimously passed, "with bursts of applause." It would seem that their own State society is up in arms against the one Faculty that conducts two distinct and separate graduating lecture sessions annually, under the extremely gauzy pretext of running two distinct and separate colleges. If his own State society pass resolutions so condemnatory of Professor Gaillard's multifarious annual graduating sessions, how can he expect to make the whole country abstain from questioning the propriety of his course? The resolutions were offered by Dr. John Baker, an ex-president of the society, possessing no college connection whatever. They are as follows:

Resolved, That this society is in full accord with the American Medical College Convention, seeking to elevate the Standard of medical education in this country.

Resolved, That summer schools, which enable students to graduate after from eight to nine months' study, are exerting an evil influence upon the profession.

Resolved, That a winter and summer course by the same school, and graduation at the end of each, tends to deteriorate the standing of the medical profession.

THE Medical College of Fort Wayne, Ind., issued last year its first annual announcement, containing a Faculty list of ten

professorates and two adjunct professorates. Its *raison d'etre* is extremely unique. The diseases peculiar to the Maumee and Wabash valleys furnish the grounds upon which this new college takes its stand. Students should be educated and trained in the part of the country in which they intend to practice. Hence to treat "diseases peculiar to the Maumee and Wabash valleys," a young man must be educated in a college located in those valleys. The colleges of this country ought to take the hint and establish "Professorships of diseases peculiar to the Maumee and Wabash valleys," of the diseases of the far West, of the diseases of the Mississippi basin, of the disease of the upper lakes, and so on *ad infinitum*. The construction of the sentences of this new announcement is something amazing. For example, "There exists in this region forms of diseases peculiar to the country," etc., "It is no longer now as it formerly was" (!!) The following stunning sentences are reproduced *verbatim, literatim et punctuatim:*

"To sum up concisely the reasons that have induced so important and arduous an undertaking as the establishment of a new Medical College, we may state that there exists in the region of which Fort Wayne is the geographical center, a well marked endemic influence inducing diseases more or less peculiar to the country.

"That diseases common to other parts also receive a well marked impress from the same endemic influence; that this endemic influence itself undergoes a change, varying from time to time with the history of the country; that the course of the successive stages of endemic influence is dissimilar in different districts, and different in point of time.

"That these facts lead to the inevitable conclusion that every district is to be studied separately, and it becomes every one contemplating the practice of medicine to obtain his clinical instruction in the same district in which he designs to labor."

The Colleges and the Three-Years-Reading Requirement for Graduation. Every one of the 57 American Medical Col-

leges, with the exception of the following named schools, require, according to their annual announcements, the three-years-of-study qualification in candidates for the doctorate, viz., The University of Georgia Medical School, The Kentucky School of Medicine, The Louisville Medical College, Central University Medical School, (Louisville) Washington University Medical School, (Baltimore) University of Maryland Medical School, University of Virginia Medical School, Medical College of Virginia and the Medical Department of the University of Nashville and Vanderbilt University. Professor Gaillard is the inspiring genius of the two schools that he is connected with, viz.: The Kentucky School of Medicine and the Louisville Medical College, and he has ceaselessly advocated, for years, the throwing overboard the three-years-study clause, which every physician supposes of vital importance to graduation. He has advocated its abolition, argued for it, fought over it, written upon it, and in every way given himself up to insisting that excellency in examinations was *the* thing to be considered in granting diplomas; and if a young man could stand his examinations at the end of nine months, or of nine years of reading, time made no difference. Every college that he heard of joining him in abolishing the three-years-study clause, he publicly welcomed in his medical journals. No editor in the country has abandoned himself to this new departure in requirements of candidates for graduation so conspicuously as he, and it must be confessed he has wielded a power in the South, when we see that the colleges above enumerated are all Southern schools. The stand that this erudite professor and editor has so conspicuously maintained before the American medical public, is now rendered all the more ridiculous and farcical by a ghastly attempt to show how virtuous his two colleges are, and how recently they have become so. In commenting, in his *American Medical Bi-Weekly*, on the passage of the resolutions adopted by the Kentucky State Medical Society at its late sitting, he submits the following: "The Medical Institution of the State against which these State society resolutions are aimed has had for four months past—(mark well the ancientness of the reso-

lution—FOUR MONTHS!!")—upon its record books a resolution, that no student shall be allowed to come up for graduation who does not file written evidences that he has been a student of medicine for two years; that school (the Kentucky School of Medicine, and one other (the Louisville Medical College) are the only medical institutions in this State which have enacted such a law." For the simple reason, we suppose, that every other medical college in Kentucky requires THREE years instead of two.

The most inconoclastic remarks on graduation qualifications comes from the last announcement of the Medical Department of the University of Virginia. Listen:

"The degree of Doctor of Medicine is conferred upon such students as prove their fitness for the same by rigid and searching examination. It has ever been the policy of the institution to make its honors testimonials of merit, and not certificates of attendance on a prescribed course of instruction. In accordance with this policy, the degree of Doctor of Medicine may be conferred upon a first-course student if found worthy of it. Not only is it within reach of the intelligent, diligent and persevering, to graduate in one session of nine months, but in point of fact many do thus graduate. A longer time, however, is often devoted to the necessary preparation and wisely, when circumstances permit. It is not an unusual case that an academic student, looking forward to medicine as his profession, conjoins a part of the medical with his academic studies during one session; and during the next, entering as a medical student proper, he is enabled to graduate at the close thereof with comparative ease."

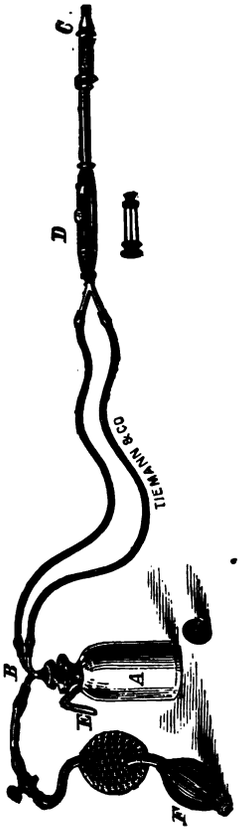
The next new wrinkle will be to grant a diploma to students just before they have time to attend lectures.

DEATHS OF DOCTORS FROM DIPHTHERIA IN PARIS. M. Carrère has just died of diphtheria, at the early age of thirty-one. He makes the fifth doctor who has died in Paris within a short time from the same disease; viz., MM. Reginauld, Dubois, Mécanden, Cintrat and Carrère. How many others may there be who die obscure and unknown?—*Gar. des Hôpit. Ap.* 24.

Editorial Notices.

The index to this volume will appear with the next number.

Owing to the report of the convention of the Illinois State Medical Society, reports from other societies and other matters of interest could not be published in this issue.



A NEW THERMO-CAUTERY.

An ingenious and novel device by which thermo-cauterization may be produced, has recently been perfected by Dr. Guérard. We append a cuts howing the instrument. One or two ounces of benzine are put into the bottle (*a*), which is then closed with the rubber stopper (*b*), when the cautery point is selected and screwed to the front of the instrument (*c*). The guard is drawn open with the thumb-button (*d*), and the bottle hooked to a button-hole in the coat by the hook (*e*). The hand-ball (*f*) is worked gently with the left hand, the instrument being held in the right with its point over a lighted lamp which will ignite the gas. When there is a good blast, close the guard by pushing the thumb-button (*d*) forward, and the platinum cauter may be heated to the required intensity and kept so by occasioned compression of the hand-ball.

Our readers will remember that the AMERICAN MEDICAL ASSOCIATION will meet in Chicago on June 5th.

PROSPECT.—When, a few months since, we were cast upon our own resources for the publication as well as the editorial management of the JOURNAL AND EXAMINER, we were not without apprehension as to the difficulties we should be called upon to encounter, and our ability to surmount them. Unaccustomed to the transaction, in detail, of all the business necessary for the pecuniary success of so important an enterprise, we could not help looking into the future with some anxiety. This solicitude, however, prompted the vigilance, industry and forethought which have resulted in what we can, without hesitancy, proclaim a triumphant success.

As evidence of the latter fact, and as a reward for the faithful and liberal patronage of which we are the recipients, we propose adding sixteen more pages to our periodical. This will place us on a par, in respect to space at least, with the best American medical journals. Hereafter each issue of the JOURNAL AND EXAMINER will contain 112 pages, instead of 96, as heretofore. The aggregate number of pages for the year will therefore be 1,344. The subject-matter will be the same in variety and value as we have given our readers since the establishment of our joint periodical.

Our arrangements for obtaining scientific and practical contributions, hospital reports, clinical lectures, correspondence, local and general news items, etc., etc., have never been so good as they are now. Add to this our very large list of American and foreign exchanges, and it will be seen that our facilities for making an *excellent* journal are everything that could be desired. Already large, and when bound somewhat bulky; with the additions we are now making, our volume will become too ponderous for convenient handling. To remedy this inconvenience, and to afford us the opportunity for adopting other conditions which we think will be advantageous to our readers, as well as ourselves, we have determined to divide the yearly publication into two volumes of

six months each; the one to begin in January, and the other in July. This number will therefore terminate the present volume, and will accordingly be furnished with an index. The completion of the volumes, semi-annually, will enable those who desire to do so, to commence their subscription in January and July, and still obtain a complete volume.

The yearly subscription price will remain the same, if paid in advance, according to our published terms. We cannot point out to those who patronize medical periodicals how they can get more substantial reading for the same expenditure.

We take this occasion to express our warmest thanks to the many friends who have stood by us so faithfully during the years gone bye. To our new friends who have recently extended to us their patronage we say welcome; to both we renew our promises of industrious and unremitting efforts to make the JOURNAL AND EXAMINER more worthy of their good will in the future than it has been in the past.

The JOURNAL AND EXAMINER has now nearly completed its second year, and we think it no exhibition of vain affection for our favorite charge, to say that with each issue it has shown increased vigor and comeliness; and that we are continually presented with facts which give us gratifying assurance that the labor and pains taken with it receive the hearty approbation of the profession wherever it is read.

APOLOGY.—We owe it to our readers and to ourselves, to state that a notice announcing the meeting of the Illinois State Medical Society, held in Chicago last month, was to appear in our last issue; but the printers, when arranging the forms, inadvertently left it out. We were greatly chagrined at this unfortunate accident, but felt considerably relieved when we saw that the convention was very well attended nevertheless.

CORRECTION.—We beg to correct an erratum which occurred in the last issue. On page 465 the name of the new president of Rush Medical College reads J. Adams, instead of *J. Adams Allen.*

BOOKS AND PAMPHLETS RECEIVED.

Civil Malpractice: A Treatise on Surgical Jurisprudence, etc. By M. A. McClelland, M. D. 1877.

The Cure of Rupture, etc. By George Heaton, M. D., etc. Edited by J. H. Davenport, A. M., M. D., etc. 1877.

Atlas of Skin Diseases. By L. A. Duhring, M. D., etc. Part II. 1877.

Archiv der Pharmacie. VII. Band, 4 Heft.

Correspondence.

WENONA, ILL., May 10, 1877.

DR. INGALS.—*Dear Sir:* I noticed in the May number of your JOURNAL a very interesting communication from Dr. E. W. Lee, "On the Best Means of Promoting Union by First Intention," by the use of fine needles for sutures.

I have been in the habit, for a good many years, of using a quite simple plan in scalp cuts, which renders shaving of the scalp unnecessary. I use neither sutures, pins nor plasters, but simply take up a small lock of hair on each side of the cut, near the margin of the wound, and tie them with the surgeon's knot. This simple procedure produces good results, and as I don't recollect of ever seeing the suggestion in any medical works, I thought it would do no harm to give the hint to the profession.

Yours truly,

K. E. RICH.

Summary of Progress in the Medical Sciences.

I. Surgery.

Operative Treatment of Varicose Veins. Schede. (*Wiener Med. Zeitung*, 1877. No. 8.)

In the past year the writer accomplished in ten patients the artificial obliteration of the varicose veins of the leg, by ligations, in the following manner: After a bandage was applied around the thigh sufficiently firmly to make the varices swell up, the latter were exposed by an incision, carefully isolated and ligated with catgut, at the distal and proximal ends. Then the veins were cut through, between both ligatures, and the cutaneous wound was closed by interrupted silk sutures. The whole operation was performed under the carbolized spray, and an antiseptic dressing was applied afterwards, The limb thus operated upon was placed securely on a splint, in order to prevent any motion, and to obviate the breaking off of thrombi and their introduction into the circulation. The first dressing was, as a rule, not changed till the fifth day, when the sutures were removed. Although then the wound was healed, the patient was not allowed to get up till the fifteenth day. The result of this treatment was perfect, concerning the complete absence of dangerous complications and of violent reaction.

Lately the doctor has simplified his method by substituting the subcutaneous ligature. Where the vein is to be obliterated, a prepared catgut is passed around it, with a curved needle, without any cutaneous incision. The desired number of ligatures thus put in place, a piece of strong rubber tubing, of about the thickness of the little finger, is put on the skin, following the course of the vein operated upon. The ligatures are tied over this tubing, while an assistant is compressing the latter. The elastic tension of the rubber suffices to keep the ligatures perfectly tight and the opposite walls of the vein in permanent apposition. After twelve hours, one half of the ligature is removed, and after twenty-four hours, the balance. By this time, the rubber tube has made a deep groove into the skin, and is kept in its place by an antiseptic bandage, at least one week. After this period, the cure can be considered as completed. As a remarkable fact is mentioned the total absence of any decubitus, though the skin has been so long submitted to continued pressure by the rubber tubing.

Treatment of Fractures of the Elbow in Children. Berthomier. (*Thése de Paris*, 1875; *Bullet. gén. de Thérapeut. Med. et Chir.*)

In the treatment of these injuries in children, should the member be immovably fixed in a state of flexion or extension?

According to Berthomier and Laroyenne, that which is most to be dreaded is not traumatic arthritis (which is rarely so severe as to terminate in anchylosis), but a vicious position of the fragments which in most cases causes the obstacle to natural movements. This fact has been verified in a large number of cases.

Now, proceeding from the fact that the sole position capable of bringing about exact coaptation of the fragments is that of extension, these authors have for several years treated all fractures of the elbow in children in this position. In all cases they have observed, after consolidation has been effected in these favorable conditions, that the articular stiffness yielded to appropriate treatment in about a fortnight (sometimes less), so that the joint could be placed in nearly all, if not quite all, of its normal positions. They take care to add that in some instances the indication is quite the reverse of that stated, when, for example, there might be a fear of complications due to dysthetic processes, white swelling of scrofulous subjects, etc.

The rare accident of epiphyseal separation of the epicondyle, necessitates immobility in the flexed position.

Treatment of Carbuncle. J. H. DIBRELL, Jr., M. D. (*Phil. Med. and Surg. Reporter.*)

By the use of Carbolic acid and Collodion, good results are secured. They can be used in any stage of the disorder. D. tells us how he used these agents:—

My plan is as follows:—When the carbuncle is seen early, to puncture it, and with a camel's hair pencil, or small pointed stick, introduce into the opening thus made the pure and undiluted acid. If the disease has made greater progress, and one or more small acne-like pustules have made their appearance on the tumor, these are carefully opened, which can be done without causing pain, and the acid introduced at each opening, as before indicated. The effect of the acid when first applied, especially if it touch a denuded surface, is to produce a sharp stinging pain, which is, however, of but momentary duration. The next effect is local anæsthesia, and the patient is, for a time, perhaps hours, free from pain.

Carbolic acid possessing in a notable degree anæsthetic, antiseptic and caustic properties, would seem to be peculiarly adapted to the treatment of the disease under consideration, which is usually attended with great pain, sloughing, and an intolerable odor. Its use in my hands has certainly seemed to diminish the pain, correct the odor and to arrest the sloughing process with much promptitude.

After the acid had been applied, collodion should be several times painted over the carbuncle, and beyond it, a few lines, on the uninflamed skin. *All the openings are to be left free,* in order to give egress to discharges. Each layer or film of the collodion should be allowed to dry before another is put on. This dressing may be renewed once daily, and the collodion previously applied, if partially detached, should be peeled off before a new application is made. If the part on which the carbuncle makes its

appearance be covered with hair, this should be cleanly shaved off, otherwise the collodion will be difficult to remove, and at the same time cause considerable pain.

It is interesting to watch the collodion as it contracts upon the diseased tissues. The skin, previously red and swollen, will in a few minutes be seen through transparent gun cotton, to have become pale and depressed, as the pressure gradually empties the engorged capillaries. If the disease is advanced, and sloughs have become partly separated, they are not unfrequently forced out, or brought so near the openings as to be readily detached with scissors. This pressure does not give rise to pain, but on the contrary, generally affords much relief to the suffering patient. The application of collodion in this disease has other advantages. It limits the extent of the disease in decreasing the vascularity of the part, and in this way lessens the inflammatory action going on, and probably also prevents the absorption of pus. It also protects the surronnding skin from contact with the discharges, which, as is well known, are capable of producing, if not an extension of the disease, numerous small boils, which are of themselves an exceedingly annoying complication. Should, however, any such pustules or boils be formed in the course of the disease, they can be cut short by touching them with carbolic acid. After the carbuncle has been treated with the acid and collodion, it should be protected from contact with the clothing, by covering it over with a piece of old linen or cotton cloth, saturated with sweet oil, or spread with carbolic acid cerate.

Constant Irrigation in Chronic Cystitis. JACKSON. (*The Boston Med. and Surg. Jour.*, April, 1877.)

Dr. J. reports two cases of chronic cystitis successfully treated by constant irrigation. The means used were a vessel containing water, a double catheter, and india-rubber tubing sufficient to convey the water to and from the bladder. The flow was regulated by a stop-cock attached to the reservoir. The position of the vessel should be such as not to cause pain by excessive pressure, but it is necessary that the bladder should be fully distended at times, in order that the whole surface may be thoroughly cleansed. About a barrel of water is needed in twenty-four hours. Of the first case, he says that, the usual method of intermittent irrigation was adopted, and continued about two months, without benefiting the patient, at the expiration of which time constant irrigation day and night by means of water about the temperature of the body was substituted. A constant flow of water into the bladder was kept up for three days, when the catheter was withdrawn and the urine examined, which, on previous examinations, was alkaline, but now, for the first time, was acid. Irrigation at intervals, varying from two to three days, was kept up for about one month, at the end of which time the case was discharged cured. Case two was not unlike the first, only in duration of time; about one month of treatment, by constant irrigation, at intervals varying as about in case one, was sufficient to cure the patient. W. F. L.

Treatment of Wounds. PROF. V. DUMREICHER. (*Wiener Mediz. Wochenschrift.* XXVII—6.)

The rapid healing of wounds without any, or but very slight fever, and without any, or but little secretion of pus; and how to prevent the occurrence of traumatic diseases—these problems have given rise to much discussion, and yet they cannot be considered as satisfactorily solved.

Lister has accomplished a great deal. Nussbaum, Volkmann, Thiersch and many others, have had very favorable results from Lister's method. They all attempt to prove, from their experiments, the superiority of Lister's antiseptic method over the common open treatment of wounds.

The advantages claimed for Lister's method are:

1st. The protection of wounds from all untoward influences, therefore preventing traumatic diseases.

2d. The more rapid healing of wounds, either *per primam intentionem*, without fever, or rapid healing, with very slight fever and but little suppuration.

After Volkman, Thiersch and Nussbaum made their report to the German Congress of Surgeons of the year 1876, recommending Lister's antiseptic treatment, Burrow reported on the success his father and himself have had in the open treatment of wounds.

The hospital under their supervision contained 16 beds; ventilation imperfect; the patients of the poorest class; several amputations and other operations were performed by students. Under these circumstances, their report shows that out of 123 operations but 7 per cent. proved fatal. While Listers shows a mortality of 17 per cent., Volkmann, 18 per cent., and Thiersch, 23 per cent.

The authors who are in favor of Lister's method differ in their opinions as to its protective power. Nussbaum looks upon it as a prophylactic agent against hospital gangrene rather than against pyæmia. Volkmann does not think that Lister's method will protect the patient entirely from traumatic diseases, particularly not from erysipelas; he, however, believes that these diseases will decrease in frequency and severity under its use. Thiersch believes that Lister's method is a prophylactic against pyæmia.

For the open treatment of wounds, as practised formerly, well-ventilated apartments were required, the greatest cleanliness was necessary, and an experienced corps of assistants and nurses was indispensable. The constant supervision of the surgeon was also required. Any of these conditions failing, the treatment was not a success.

In the technic of operative surgery decided progress has been made —improvements that were essential for the open treatment. We have the catgut ligature which causes no suppuration, and if the wound is closed, will be absorbed; anæsthetics and Esmarch's bandage allow the surgeon to prepare the wounded surfaces as he pleases.

A close study of Lister's method shows that the largest wounds, if properly attended to, can heal by first intention. Considerable experience is required to properly apply the bandages so as to obtain favorable results.

To fully carry out the directions given by Lister would require skilled assistants and costly bandages, and if not carried out strictly according to directions, our labor will be for naught. For a country surgeon, it would be almost impossible to make use of this method.

Prof. D. has his doubts as to whether the antiseptic measures, as laid down by Lister are at all necessary.

We know that in healthy individuals a wound will heal by first intention, if the edges of the wound are brought into close contact and held there; and that if the person is unhealthy, his blood impoverished, a similar wound will not heal by first intention, owing to a want of plasticity of the exudation between the surfaces.

A wound in a healthy person can be healed by first intention if the following conditions are fulfilled:

1st. To give the surfaces of the wound such a form that they can be brought in the closest contact.

This can be easily accomplished in operations of the extremities by using anæsthetics and Esmarch's bandage.

2nd. To use a ligature that will be absorbed and cause no suppuration.

3d. To cause the wounded surfaces to secrete a copious plastic exudation. This can be accomplished by applying a 4 to 8 per cent. solution of chloride of zinc to the surfaces.

4th. When there there is no longer any danger from hemorrhage, to bring the opposite surfaces in close contact.

5th. When it is impossible to bring the surfaces in close contact, to allow a free escape to any pus that may be formed. This we can do by using the drainage tube.

6th. To prevent the dressings, after being impregnated with the secretion of the wound, from adhering to the skin, because, in removing them, we may disturb the parts, by partly tearing open the wound. After the wound has been treated as above directed, a piece of waxed paper is placed over it, openings being made in the paper for drainage tubes, if any are used.

To cause the surfaces to come in closest contact, cotton is put over the surfaces of the wounds, and through adhesive plaster and bandages, the necessary compression is made. The cotton being elastic, there is no great danger of making too severe pressure.

This method was tried in cold abscesses, exudations in the sheaths of tendons and hydrocele, with the best of results.

The results have been so gratifying as to prove that Lister's good results are not due to the antiseptic measures adopted, but to the close adaptation of the surfaces, to the exciting of inflammatory exudations and to the free escape of pus. Dumreicher, therefore, cannot accept the doctrine of Lister, maintaining that the favorable course of all wounds treated according to his method and the absence of all traumatic diseases are due to his antiseptic measures.

Stich and Panum, by their experiments on animals, proved that pyæmia

and septicæmia could only be produced by direct infusion of the poison into the veins. Burrow's statistics show that by cleanliness, poisoning of wounds can be prevented. During the operation, the escape of blood from veins prevents the introduction of poison; after the operation, the air, which carries the septic germs, is excluded by the close union of the edges. and the drainage tubes are rendered impervious to air by closing their external end.

D. considers it a rather one-sided view, which claims that traumatic diseases are produced mostly by external influences, air, etc.; he thinks that the individuality of the person, his state of health, the condition of his blood, etc., etc., are very important factors.

How to Prevent Hemorrhage After the Removal of Esmarch's Bandage. DR. RIEDINGER. (*Deutsche Zeitschrift fur Chirurgie*, XVII., 5 and 6.

The greatest disadvantage attached to the use of Esmarch's bandage, is the profuse hemorrhage following the removal of the elastic band. The hemorrhage in profuseness depends upon the force of constriction, and the length of time which it is allowed to remain. The amount of blood lost in many cases is often more than that following digital compression.

Esmarch himself admits that there is considerable capillary hemorrhage after the removal of his bandage, but thinks that it is easily stopped and of no long duration.

The author mentions the names of many eminent surgeons, who have seen the most profuse hemorrhage after severe operations, particularly after amputations; the blood pouring out of the wounded surfaces as if from a sponge.

Various surgeons of England, France and Germany are mentioned, all of whom have had unpleasant experiences with this secondary hemorrhage.

The author believes that hemorrhage is caused through paralysis of the vaso-motor nerves; further, that through the constriction, the blood being forced entirely from the part operated, no coagulation of the blood takes place.

Various means have been tried to check this hemorrhage, but they have, as a rule, not been very successful, *e. g.*, cold applications, ice, ice-water; but the hemorrhage persists in spite of these applications often fifteen minutes, and sometimes one-half to one hour.

Esmarch recommends the ligation of every blood vessel, veins as well as arteries.

P. Bruns has ligated as many as thirty-six vessels, and still had hemorrhage. Bardeleben has ligated all arteries mentioned in anatomy, and those vessels presenting themselves to the eye, arteries and veins, and still had considerable hemorrhage.

The author has performed experiments on animals to see whether the sensibility of the nerves was entirely overcome by the constriction of bandage. The reaction upon applying electricity was quite apparent,

and from this he was led to apply electricity to the nerves which supply the vessels of the part operated on; his results were quite satisfactory, so much so that he recommends the application of electricity before the removal of the bandage. He uses the induced current. The poles to terminate in sponges; one pole to be placed on the wounded part, the other electrode to be passed over the nerve or nerves which distribute branches in the bandaged part, he has succeeded in reducing the hemorrhage to a great extent.

II. THERAPEUTICS.

Atropia for Epilepsy. SWETLIN. (*Allg. Med. Centralztg*, 1877, No. 5).

In the clinic of Prof. Leidesdorf, a number of experiments made on Guinea pigs decidedly proved that atropia in small doses (one to four milligrammes) diminishes the action of the reflex nerve centres, while other experiments confirmed the well known fact that the long-continued use of larger doses of atropia (5 to 20 milligrammes) markedlv increases the reflex excitability. Some Guinea pigs made perfectly epileptic by Brown-Sequard's operation recovered completely in two or three weeks under the daily administration of 0,002 atropiae sulphas, while other Guinea pigs which were operated upon on the same day but were not medicated with atropia, continued to have the epileptic fits. Though the experiments with epileptic patients did not yield a complete success in every case, still the results were highly satisfactory in most cases. Recent cases of the purely motor epilepsy were always healed; in several cases of an inveterate epilepsy complicated by mental derangement, the recovery was complete, in others the number and severity of the attacks were greatly diminished. The remedy was prescribed as follows: Atrop. sulph. 0,05, pulv. et extr. gylcyrrh. q. s. ut f. pilul. 50; S. Take one pill daily.

The clinical observations show that the atropia given in daily doses of one milligramme may be continued for several months, without producing any signs of intoxication, and that this continued use of suchsmall doses is a very efficient treatment of epilepsy.

Remedy for Headache. J. E. LOCKRIDGE., M. D. (*American Practitioner*)

The doctor confines his remarks to idiopathic—so-called sick headache, or nervous headache, or neuralgic headache, and not the headache from organic trouble, nor to that accompanying any other disease, as fever, sore throat, small pox, etc, He says:

Many times have I been discouraged as well as worried with these cases. "Pain in my head," is the cry! Sometimes over the brow, sometimes through the temples or in the back of the head, or the whole head aches. Light and noise aggravate it; the room must be darkened and every one must walk noiselessly, suffering almost as much as the patient. Sometimes the head is hot; generally, I believe, there is no unnatural heat, except perhaps in the case of gentlemen who have spent a late evening over

an extra glass of wine, or who have overtaxed their brains from a press of business. Sometimes there is nausea, attended or not with a slight coating on the tongue; just as often there is no nausea or other appreciable derangement of the digestive apparatus.

Now comes the perplexity and discouragement. We enjoin quietude and the exclusion of light and sound; we make cold or warm applications to the head as the case may be, and use the hot foot-bath and mustard-plasters to the nucha or temples; we give antacids, or indulge the patient with acids, as oranges, lemons, etc.; we try aromatic spirits of ammonia, lavender, valerianate of ammonia, compound spirits of ether, separately or combined; in short, we go through the whole list of the so-called nervines, antispasmodics and corrigents; but in spite of all, the headache pursues its own course in a vast majority of cases.

But now for my remedy. Having observed that bromide of potassium, in twenty or thirty grain doses, and tincture of aconite root, separately, relieved more cases than any remedies I had previously exhibited, I experimented with large doses of the drugs combined. For several years I have been in the habit of giving in these cases sixty grains of the bromide of potassium and ten drops of the tincture of aconite root, in a wineglassful of water; the same to be repeated in an hour or two, if the head be not relieved; but a repetition of the dose is very seldom required. In the case of ladies and others who wish to have the remedy always at hand, or who are about to start on a journey, I supply them with the following mixture:

℞ Bromide of potassium, ... ℥ ij
Tincture of aconite root, ... ℥ j.
Distilled water, } . . . . āā ℥ ij.
Simple syrup, }

M. S. Take a dessertspoonful in some water every hour, until relieved.

My recipe may smack of empiricism in appearing as a panacea for every variety of headache, let the cause be what it may and the accompanying symptoms be what they will; but I am willing for it to rest under the soft impeachment, if indeed it relieves promptly only a moiety of these distressing cases. I will not now attempt to give the *rationale* of this seeming paradox, or the *modus operandi* of the cure, but will simply remind my readers that this nervous headache is a paradoxical, capricious, discouraging and worrying affection.

The Absorption of Mercurials. Dr. Hamburger, Franzensbad, Austria, (Prager Med. Wochenschrift.)

The literature on the question whether mercury appears in the secretions during its use as a remedy, or not, is very extensive. The contradictory results that have been arrived at can be readily explained by the methods used in detecting mercury. Before electrolysis was used for this purpose, the reaction with sulphuretted hydrogen gas was the most sensitive test known. With this it was possible to detect 0.005 gr. $Hg.Cl.^2$ in 500 C. C. of distilled water, whilst the electrolysis 0.001 gr. $Hg\ Cl.^2$ in 500 be distinctly detected. Former experiments on this subject, with negative results, are only of value to us in that they show that mercury was not

present in sufficiently large quantities to be detected with our present method of examination; however (electrolysis and afterwards changing the mercury to mercuric iodide), it must be remembered that only very small quantities need be present in order to make the objects to be examined, impure. Therefore all positive results must be taken with great hesitation. The author then goes on to state that the impurities may arise from the secretions, and also from the battery when that has amalgamated zinc elements. In order to avoid the latter contingency, it is necessary to keep the battery in a separate room from that in which the examination is made. The method used was that of Schneider. The substance to be examined was mixed with potassic chlorate and hydro-chloric acid, on the water bath, until all organic matter was destroyed; it was then evaporated until all the chlorine had escaped, water being constantly added, and then examined in the evaporating dish, with the electric current. When examining fæces only, the author filtered the solution. For electrolysis six Daniell cells were used to whose copper and zinc negative poles were attached, respectively platinum and gold wires. The current was allowed to act on the fluid for from 20 to 24 hours; after this time the gold wire was washed, placed between sheets of blotting paper and heated in a hermetically, sealed glass tube. After this gold wire was removed, iodine was introduced into the tube which was again sealed and heated. When mercury was present crystals formed could be recognized by means of the microscope without any difficulty. The results of the experiments are as follows:

1*st Experiment.* Franz Cz. . . . 24 years old. Has a papular syphilide, condylomata lata, a hard chancre and universal enlargement of the lymphatics; was treated with suppositories of 1.0 gr. mercurial ointment, which remained in the rectum from 20 to 24 hours. 6000 C. C. of urine were examined that were passed during the first four days of treatment. No mercury was found.

2*d Experiment.* After the same patient had been treated for two weeks with suppositories, the inunction cure was begun: 2.0 gr. of the ointment being used daily. The urine was collected from the eighth to the fifteenth day of treatment by this method. Mercury was present.

3*d Experiment.* Mrs. Anna Sch., 32 years old. Diagnosis: maculo-papular syphilide, universal enlargement of the lymphatics. The patient was then nursing her infant, aged four months. She was treated with suppositories. The urine examined was passed during the fifth to the fourteenth days of treatment. Mercury was detected.

4*th Experiment.* The milk of the same patient was examined and found to contain mercury.

5*th Experiment.* After fourteen days of treatment with suppositories, this method was given up, because the *eruption* was not disappearing, and recourse had to the method by inunction. After eight days of treatment by the latter method the urine was collected, and in it mercury found.

6*th Experiment.* During the same time, *i. e.*, between the eighth and eighteenth days, milk was taken from the patient. In it no mercury was found.

7th Experiment. J. H., 28 years old; has a hard chancre and a macular syphilide. The patient was put upon the inunction cure. The urine passed whilst using the first nine inunctions was collected, and mercury found in it.

8th Experiment. The fæces of the same patient were examined, and the presence of mercury distinctly demonstrated.

From these experiments the author draws the conclusions that, in order to affect the milk, suppositories ought to be used; that the mercury used by inunction never affects the milk, in which he supports the views of Dr. Kohler, but always is found in the urine and fæces. It seems that the excretion of mercury from the body takes place principally through the bile.—*Clinic.*

Jaborandi in Bright's Disease. BRUEN. (*Philadelphia Med. Times*, April, 1877.)

Jaborandi as a remedy in Bright's disease, has found great favor with Doctor B., who reports seven cases successfully treated with the drug. He found prompt relief following the administration of an infusion of ʒii to ʒii of water, the entire quantity given in one or two hours. About one hour after taking the tea, patient is usually bathed in perspiration, dyspnœa if any present, caused by fluid in the pleural cavity, is relieved, and the general condition of patient much improved. So thoroughly convinced is the author of the value of this remedy in dropsies, that he urges the profession to make use of it in private practice. W. F. L.

Pulsatilla. WENZEL. (*Louisville Med. News*, March, 1877.)

There are two preparations of this drug, the German tincture, and the American fluid extract. The tincture is chiefly used, and in ten-drop doses three times daily for several days, will produce the same results as small doses of hasheesh. In increased doses it causes frequent micturition and hematuria. Forty-drop doses of the tincture will cause violent headache, nervous excitement, and bloody stools. Severe headaches that have resisted all other remedies, will, the author says, receive benefit by from three to ten-drop doses of the tincture three times daily for one or two weeks. He believes it acts directly on the nerve centres, and principally on the cerebrum. Great care should be exercised in administering pulsatilla, because of its poisonous qualities. Doctor W. claims that wherever a nerve-sedative is required, no remedy is equal to it. W. F. L.

III. OPHTHALMOLOGY.

The Effect of Eserine on Glaucomatous Eyes. LAQUEUR. (*Centralbl. f. d. Med. Wissen.* 1876, No. 24.)

The experience that the instillation of atropia sometimes has lit up an attack of glaucoma induced Prof. Laqueur to try whether eserine, the alkaloid of the calabar bean, would prove itself also in glaucoma to be the

antagonist of atropia. Applying upon the conjunctiva daily three to four drops of a solution of the sulphate of eserine, he noticed after three or four days a decided decrease of the abnormally high tension of the eyeball in five cases of glaucoma simplex. But the professor is not prepared to warrant the permanency of this gratifying result. The applications could be continued during three weeks, without causing the slightest inconvenience.

Calabar and its Therapeutic Usefulness. A. WEBER. (*Gralfe's Arch.* XXII., 4.)

As far back as 1869, W. by a series of very ingenious experiments could assure himself of these facts; (1) that the intra-ocular tension of the vitreous humor of the normal eyeball exceeded that of the aqueous humor; (2) that atropia instilled into a normal eye reduced the tension merely of the vitreous humor, while it increased the tension of the anterior chamber; (3) that calabar acted antagonistically to atropia by increasing the tension of the vitreous space and reducing that of the anterior chamber.

The practical inference Dr. W. drew from the above observations was, that calabar ought to be substituted for atropia in all those affections of the cornea which call for a diminution of the pressure upon the posterior surface of the cornea. W. even ventures the opinion that the routine-like treatment of deep conical ulcerations with atropia has necessitated the tapping of the anterior chamber in a good many cases in which the operation could have been avoided by the use of calabar. The affections for which W. tried the use of calabar with success, are:

1. *Keratocele.* Cases of this kind demonstrated conclusively that calabar diminishes the tension of the aqueous humor. Under its use the thinned portion of the cornea which was bulging out like a small bladder, sunk back to the normal level of the cornea, and under the continued use of calabar, the keratocele did not return, though no pressure-bandage was applied. The corneal ulcer filled up with new tissue and healed with a small, smooth cicatrix.

2. *Conical Cornea.* The effect of the calabar upon the abnormal curvature of the cornea could be plainly noticed, and was proved by the permanent amelioration of the sight.

3. *Old maculæ cornea* which resisted all known remedies have cleared up under the influence of calabar, so that W. is satisfied by his numerous trials that calabar is superior to any other remedy for that purpose. Of course, it must be employed several weeks before an effect can be noticed.

4. *Deep and progressive ulcerations* either in the centre or at the margin of the cornea, as they occur in old and debilitated persons, or in children in connection with blennorrhœal conjunctivitis. In these cases the calabar achieved its most brilliant triumphs; it prevented the perforation of the ulcer; it guarded against hernia of the iris and the subsequent staphylomatous expansion of the cornea; it checked the destructive progress of the ulceration and caused the ulcer to rapidly fill up and cicatrize; and it accomplished all this without the aid of bandages or any

other means, except the cauterization of the blennorrhœal conjunctiva. While highly lauding the calabar for its excellent effect upon *deep* ulcers in the cornea, Weber did not forget to state that he could not recommend its use in *superficial* and vascular ulcerations of the cornea. Here the good effect of atropia with a proper bandage remains unquestionable.

5. *Peripheral hernia of the iris;* to reduce which calabar has before been used, but Weber applied it also to guard against an iris hernia after all incisions through the periphery of the cornea.

6. *Glaucoma.* In several forms of this disease, the calabar has, as it seemed, permanently checked the further progress of the glaucomatous process; in some cases its use was followed also by an improved vision.

W. experimented in the most cases with the extract of the calabar bean; but since he could obtain the pure sulphate of eserine, he found the results still more striking and brilliant. The eserine is 10 to 15 times more powerful than the extract; one drop of a one per cent. solution of eserine begins after five minutes to develop its effect upon the ciliary nerves and produces within twenty minutes an extreme contraction of the pupil which lasts ten hours. If one drop of the solution of eserine and one drop of a solution of atropia of equal strength was dropped in the eye, the eserine would cause a contraction of the pupil during the first thirty or forty-five minutes; then its influence was conquered by the action of the atropia which, however, could not produce a complete maximum dilitation of the pupil.

The use of Eserine. L. V. WECKER. (*Klin Monatsbl. f. Augenheilk.*, XV., 2.)

The neutral sulphate of eserine forms needles of a yellowish white color. These crystals are very hygroscopic, so much so that in an ill-corked bottle they will melt into a yellowish-brown, resin-like substance. Eserine is soluble in water, making a clear solution with slight yellowish tinge, which gradually (in summer, within twenty-four hours, in the colder season, not till the second or third day) changes to a pink color, and finally assumes a deep red hue. This discoloration is due to a process of oxydation, which weakens the peculiar properties of the eserine. Therefore, the solution loses its power in the same rate as the discoloration proceeds. W. has been employing the eserine since 1875, after the extraction of cataracts without iridectomy. Lately he also used a one per cent. solution every half hour or every hour:

1. In extensive ulcerations of the cornea, with pus in the anterior chamber after the removal of the pus through a puncture of the cornea. He has seen cases in which two-thirds of the anterior chamber were filled with pus; this was removed and eserine was faithfully instilled. The next day not a trace of pus could be discovered in the anterior chamber, while the paracentesis of so large a hypopyon was usually followed by a reproduction of pus where atropia was used.

2. In the progressive ulcers (ulcus serpens) of the cornea. The ulcer is cut across after Saemisch's method, but instead of opening the incision every day afterwards, W. does not touch the cornea at all, but simply